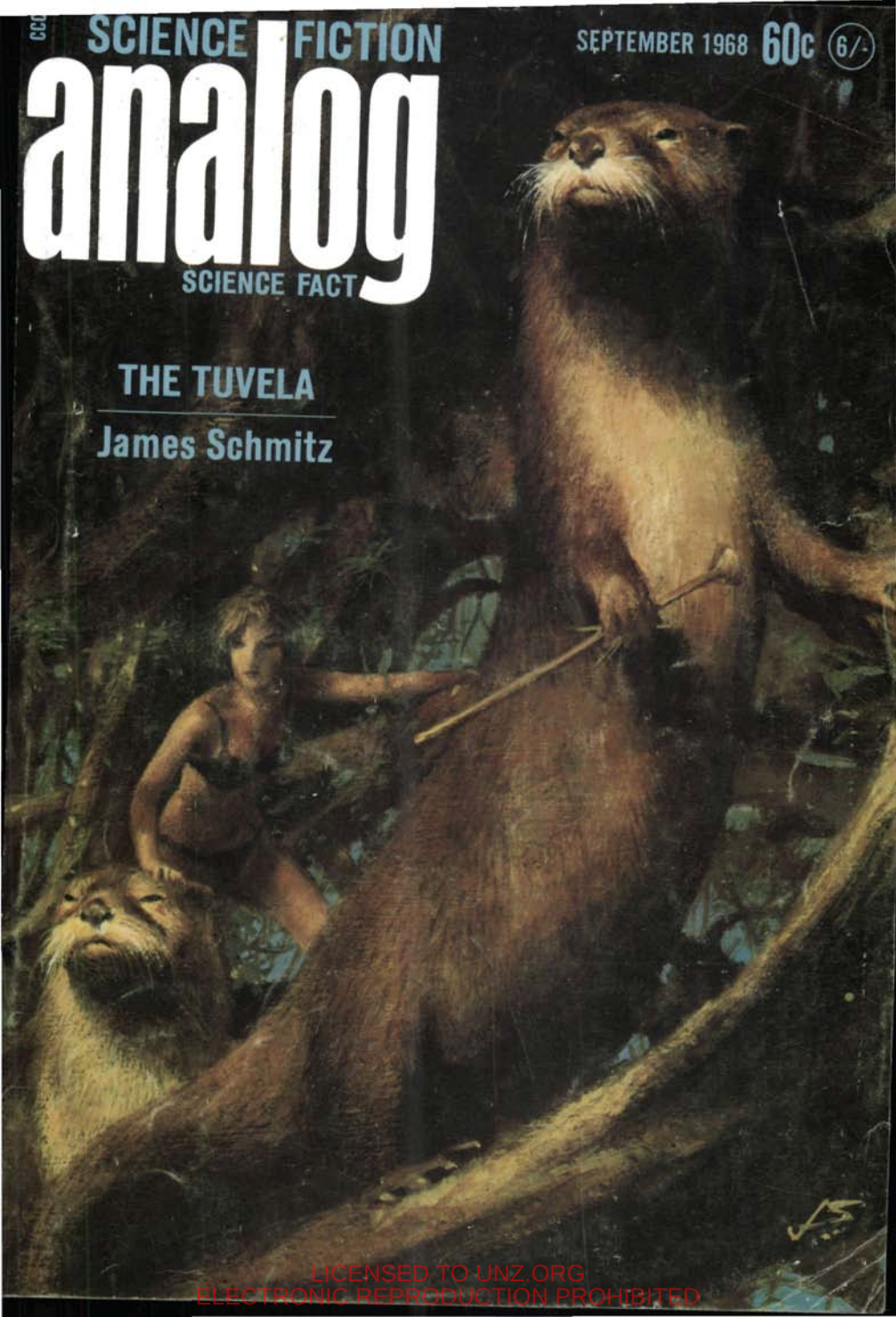



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

To people who have always meant to own

# THE WORLD OF MATHEMATICS

**The famous four-volume library edited, with commentaries, by James R. Newman (over 100,000 copies have been sold in the original hard-bound edition currently priced at $25) is available *complete and unabridged in paperback — four volumes, boxed, at only $9.95.***

## *Partial Contents*

**GENERAL SURVEY** — Jourdain: *The Nature of Mathematics.*

**HISTORICAL AND BIOGRAPHICAL** — Turnbull: *The Great Mathematicians;* Newman: *The Rhind Papyrus;* Plutarch: *Archimedes;* 12 others.

**ARITHMETIC, NUMBERS AND THE ART OF COUNTING** — Archimedes: *Poppy Seeds and The Universe;* Ball: *Calculating Prodigies;* Newton: *The Binomial Theorem;* 6 others.

**MATHEMATICS OF SPACE AND MOTION** — Clifford: *The Science of Space, The Space Theory of Matter;* Euler: *The Seven Bridges of Konigsberg: A Famous Problem.* Kline: *Projective Geometry;* 7 others.

**MATHEMATICS AND THE PHYSICAL WORLD** — Galileo: *Mathematics of Motion;* Moseley: *Atomic Numbers;* Boys: *The Soap Bubble;* Mendel: *Mathematics of Heredity;* 18 others.

**MATHEMATICS AND THE SOCIAL SCIENCES** — Malthus: *Mathematics of Wealth;* Richardson: *Statistics of Deadly Quarrels;* Hurwicz: *On the Theory of Games;* 7 others.

**THE LAWS OF CHANCE** — De LaPlace: *Concerning Probability;* Peirce: *The Red and The Black;* 5 others.

**THE MATHEMATICAL WAY OF THINKING** — Peirce: *The Essense of Mathematics;* Mach: *The Economy of Science;* 3 others.

**MATHEMATICS AND LOGIC** — Boole: *The Mathematical Analysis of Logic;* Nagel: *Symbolic Notation;* 3 others.

**THE UNREASONABLENESS OF MATHEMATICS** — Kasner and Newman: *Paradox Lost and Paradox Regained;* Hahn: *The Crisis in Intuition.*

**BECOMING ONE'S OWN MATHEMATICIAN** — G. Polya: *How to Solve It* (excerpt).

**THE VOCABULARY OF MATHEMATICS** —Kasner and Newman: *New Names for Old.*

**MATHEMATICS AS AN ART** — Sullivan: *Mathematics as an Art.*

**VARIOUS CLEVER MACHINES** — Von Neumann: *Theory of Automata;* Turing: *Can a Machine Think?* Shannon: *A Chess-Playing Machine.*

**THE UNGENTLE USES OF MATHEMATICS** — Lanchester: *Mathematics in Warfare;* Morse and Kimball: *How to Hunt a Submarine.*

**A MATHEMATICAL THEORY OF ART** — Birkhoff: *Mathematics of Aesthetics.*

**MATHEMATICS IN LITERATURE**—Swift: *Cycloid Pudding;* Huxley: *Young Archimedes;* 3 others.

**MATHEMATICS AND MUSIC** — Jeans: *The Mathematics of Music.*

**MATHEMATICAL DIVERSIONS, PUZZLES, AND FANCIES** — selections by: Stephen Leacock, Lewis Carroll, W. W. Rouse Ball, 7 others.

**THE MATHEMATICIAN EXPLAINS HIMSELF**—Hardy: *A Mathematician's Apology;* Poincare: *Mathematical Creation; How Ideas Are Born;* Von Neumann: *The Mathematician.*

**MATHEMATICS AND MORALITY** — G. D. Birkhoff: *A Mathematical Approach to Ethics.*

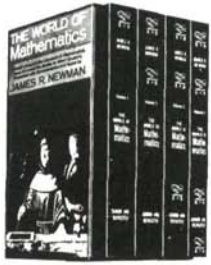
**The most extensive collection ever published, for layman and expert, of the great literature of Mathematics from the Rhind Papyrus of Egypt to Einstein's theories. Presented in four handsome illustrated volumes with 500 drawings, halftones and facsimile reproductions.**

THE WORLD OF MATHEMATICS, published in 1956, became an instantaneous and spectacular bestseller. Since then this superb collection has found its way into more than 112,000 homes in the original higher priced, hard-bound editions.

Over the years it has become apparent that, for many thousands for whom the collection would be most rewarding, the $25 price has been too high. So we explored every possible way of producing a handsome, readable, durable set at far less. The result is the four-volume paperback WORLD OF MATHEMATICS. Not a word has been cut. The type page is exactly the same as in the original edition. The paper, while of lighter weight, is of excellent quality. The principal cost difference is in the binding and in our savings on substantial printings. We are extremely pleased with the handsome paper-cover binding. The result, at $9.95 for the boxed set, is surely one of the great book bargains of all time.

### *From Vajda on Matching Pennies to the Theories of Einstein*

From Archimedes on *Poppy Seeds and the Universe* to Shaw's *The Vice of Gambling and the Virtue of Insurance* — here are 133 great books, essays, articles and stories — more than a million words. All are woven together with a clear and brilliant 130,000 word commentary by James R. Newman, member of the Board of Editors of *Scientific American* Magazine.




### *Every Field of Mathematical Thought*

Do you know what the smallest thing in the Universe is? The biggest? The fastest? Read D'Arcy Thompson's essay on *Magnitude.* From Von Neumann's classic *Theory of Games* to the mathematics of music—even of metaphysics and golf—*every field of mathematical thought* is represented.

Two basic books are included in full: Jourdain's *The Nature of Mathematics* and Turnbull's *The Great Mathematicians.*

Only a very small fraction of the authors and titles can be included in the partial contents listed here. In their entirety they are irresistible to all who respond to the miracle of the human mind that dares to chart the galaxies, weigh earth and atom, outguess chance, invent the straight line, add irrational numbers, and describe infinity.

### *How to Take Advantage of This Offer*

In order to make this great library of books more easily available, your set not only will be sent for a 10-day trial examination but, if desired, it may be purchased on the easy terms offered below.

To examine it in your home for 10 days, simply fill out the order form and mail it today. A set will be sent to you at once. If you are not absolutely sure that you and your family will place the value of THE WORLD OF MATHEMATICS at much greater than its cost, *return it to us and owe nothing.* Otherwise, you may (if you wish) remit only $1.95 in 10 days and $4 monthly for two months, plus postage, as payment in full. At all bookstores, or mail coupon to: SIMON AND SCHUSTER, Publishers, Dept. 508 630 Fifth Avenue, New York, N. Y. 10020.

## 10-DAY TRIAL EXAMINATION

**SIMON and SCHUSTER, Publishers, Dept. 508**
**630 Fifth Avenue, New York, N. Y. 10020**

Please send me.....sets of THE WORLD OF MATHEMATICS; in four soft-bound volumes, boxed, over 2500 pages, illustrated. If after browsing through it leisurely for 10 days I am not completely delighted, I will return the set(s) and owe nothing. Otherwise I will remit only $9.95 per set — in three payments consisting of $1.95 within 10 days, and $4.00 per month for two months (plus postage) for each set.

☐ **CHECK HERE** if you prefer to examine the De Luxe Edition — four handsome, hard-bound volumes, gold-stamped, boxed. Same 10-day examination offer. If you decide to keep the De Luxe set(s), remit only $5 per set within 10 days, then $5 per month for each set for four months, plus full postage charges with the last payment.

Name.....
(PLEASE PRINT)

Address.....

City.....Zone....State.....

☐ **ADDED SAVINGS:** Check here if you are enclosing $9.95 per soft-bound set ($25 per De Luxe hard-bound set) as payment in full. Then WE will pay all postage. Same 10-day privilege of return for full refund applies.

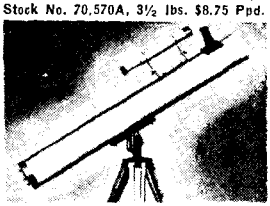
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

# MAIL ORDER SHOPPING MART UNUSUAL VALUES

A selection of products available by mail for readers of Analog.
All merchandise sold on a money-back guarantee. Order Direct by Stock No. Send check or M.O.

### "FISH" WITH A MAGNET

Go treasure hunting on the bottom! Tie a line to our 5-lb. Magnet—drop it overboard in bay, river, lake or ocean. Your "treasured" haul can be outboard motors, anchors, other metal valuables. Alnico V Type—Gov't cost $50. Lifts over 150 lbs. on land, much greater weights under water.
Stock No. 70,571A .....$12.50 Ppd.
Stock No. 70,570A, 3½ lbs. $8.75 Ppd.

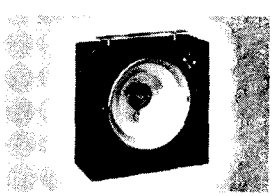


### 3" ASTRONOMICAL TELESCOPE

See stars, moon, phases of Venus, planets close up. 60 to 180 power—famous Mt. Palomar reflecting type. Aluminized & overcoated 3" diameter f/10 primary mirror, ventilated cell. Equipped with 60X eyepiece and mounted 3X finder scope, hardwood tripod. FREE: "STAR CHART"; 272-page "HANDBOOK OF HEAVENS"; "HOW TO USE YOUR TELESCOPE"
Stock No. 85,050A .....$29.95 Ppd.

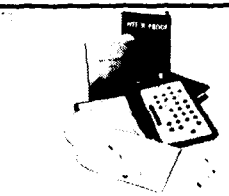
4¼" REFLECTOR TELESCOPE
Stock No. 85,105A .....$84.50 FOB

6" REFLECTOR TELESCOPE
Stock No. 85,086A .....$199.50 FOB



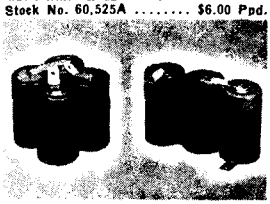
### TOP QUALITY LOW-COST STROBE

Genuine electronic strobe creates psychedelic or old-time movie effects. Terrific for parties, experiments . . . for combos, night clubs, dances, exhibitions. Best party ice-breaker ever—"freezes" the action and "unfreezes" guests. Practical too—check action of moderate-speed machinery. Xenon lamp gives one million flashes. 6⅞" diam. reflector. Uses reg. 110-120 volt A.C. current. Handsome solid walnut cabinet, 9⅛" x 9⅝" x 4". Send for Bulletin #75—describes other startlingly new unique light effects.
Stock No. 70,989A .....$79.95 Ppd.



### WFF'N PROOF—GAMES OF LOGIC

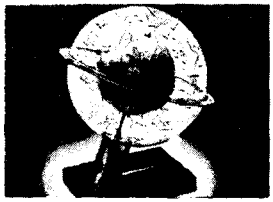
Practice abstract thinking and math logic. Developed by Yale prof. If you think learning should be fun, try WFF'N PROOF brain-to-brain combat! 21 games of progressive difficulty. Starts with simple games mastered by 6-year-olds, ends with subtle logic for challenge professional logicians. 8½" x 5¾" case contains logic cubes, playing mats, timer & 224-p. book.
Stock No. 60,525A ..... $6.00 Ppd.



### SURPLUS NEW Ni-Cd BATTERIES

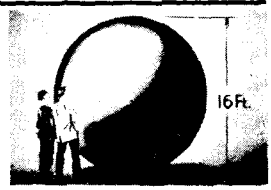
Save more than 50%! Long life—accept 300 charge and discharge cycles. 1.25 Volts per cell—750 milliamper hours capacity. Excel. charge retention. Hermetically sealed. Indefinite storage life. Multiple cells welded in series—easily cut. Combine to form bitry. ⅞" dia. x 1⅝" high. Spec. price for 100 up. Low-cost charger separate.

| Order No. | Cells | Volt. | Ppd. |
|---|---|---|---|
| 40,986A | 1 | 1.25 | $1.50 |
| 60,633A | 3 | 3.75 | 3.60 |
| 60,634A | 4 | 5.00 | 4.80 |



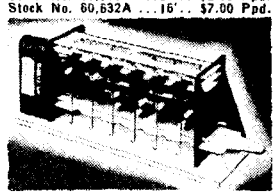
### DECORATIVE "3-D" STAR CHART

Quickly, easily locate stars in your sky—anytime, anywhere. Handsome 10" high Sky and Earth Globe has fixed transparent 7" diam. outer celestial sphere with equator calibrated in months; 4" diam. inner sphere representing earth in relief, revolves on inclined axis, and includes longitudinal and latitudinal markings. By rotating earth globe to correlate location with current month, outer globe shows stars visible in your vicinity. Included FREE: Star and Satellite Path Finder. Pocket Atlas. Instr.
Stock No. 70,984A .....$13.95 Ppd.




### GIANT WEATHER BALLOONS

"Balls of fun" for kids, traffic stoppers for stores, terrific for amateur meteorologists. Create a neighborhood sensation. Great backyard fun. Exciting beach attraction. Amateur meteorologists use to measure cloud heights, wind speed, and temp. Made of heavy duty neoprene. Inflate with vacuum cleaner or auto air hose; or locally available helium for high rise.
Stock No. 60,568A ...8' ... $2.00 Ppd.
Stock No. 60,632A ...16' .. $7.00 Ppd.



### MODEL DIGITAL COMPUTER

Solve problems, teach logic, play games with miniature version of giant electronic brains! Adds, subtracts, multiplies, shifts, complements, carries, memorizes. Colored plastic parts easily assembled. 12" x 3½" x 4¾". Incl. step-by-step assembly diagrams. 32-p. instruction book covering operation, computer language (binary system) programming problems & experiments.
Stock No. 70,683A ..... $5.98 Ppd.
BIG NEW DIGI-COMP II!
Stock No. 70,946A ..... $16.00 Ppd.

## GIANT FREE CATALOG

148 Pages! More than 4,000!

### UNUSUAL BARGAINS!

Completely new 1968 Catalog. 148 pages packed with nearly 4,000 unusual bargains. Exciting new categories. Many new items. 100's of charts, illustrations. Many hard-to-get war surplus bargains. Enormous selection of telescopes, microscopes, binoculars, magnets, magnifiers, prisms, photo components, etc. For hobbyists, experimenters, workshops. Shop by mail. No salesman will call. Write for Catalog "A" to Edmund Scientific Co., 300 Edscorp Bldg., Barrington, N.J. 08007.

NAME _____
ADDRESS _____
CITY _____
STATE _____ ZIP _____

ORDER BY STOCK NUMBER • SEND CHECK OR MONEY ORDER • MONEY-BACK GUARANTEE

**EDMUND SCIENTIFIC CO.** 300 EDSCORP BUILDING BARRINGTON, NEW JERSEY 08007

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

SCIENCE FICTION ■ SCIENCE FACT

# analog

JOHN W. CAMPBELL
Editor
KAY TARRANT
Assistant Editor
HERBERT S. STOLTZ
Art Director
ROBERT E. PARK
Business Manager &
Advertising Manager

NEXT ISSUE ON SALE
September 5, 1968
$6.00 per year
in the U.S.A.
60 cents per copy

Cover by
John Schoenherr

Vol. LXXXII, No. 1 September 1968

**SERIAL**

THE TUVELA, James Schmitz ..... 6
(Part One of Two Parts)

**SHORT NOVEL**

Hi Diddle Diddle, Peter E. Abresch ..... 97

**SHORT STORIES**

THE POWERS OF OBSERVATION,
Harry Harrison ..... 62
A FLASH OF DARKNESS, Stanley Schmidt ..... 145
PARASIKE, Michael Chandler ..... 157

**SCIENCE FACT**

STEAMER TIME? Wallace West ..... 77

**READER'S DEPARTMENTS**

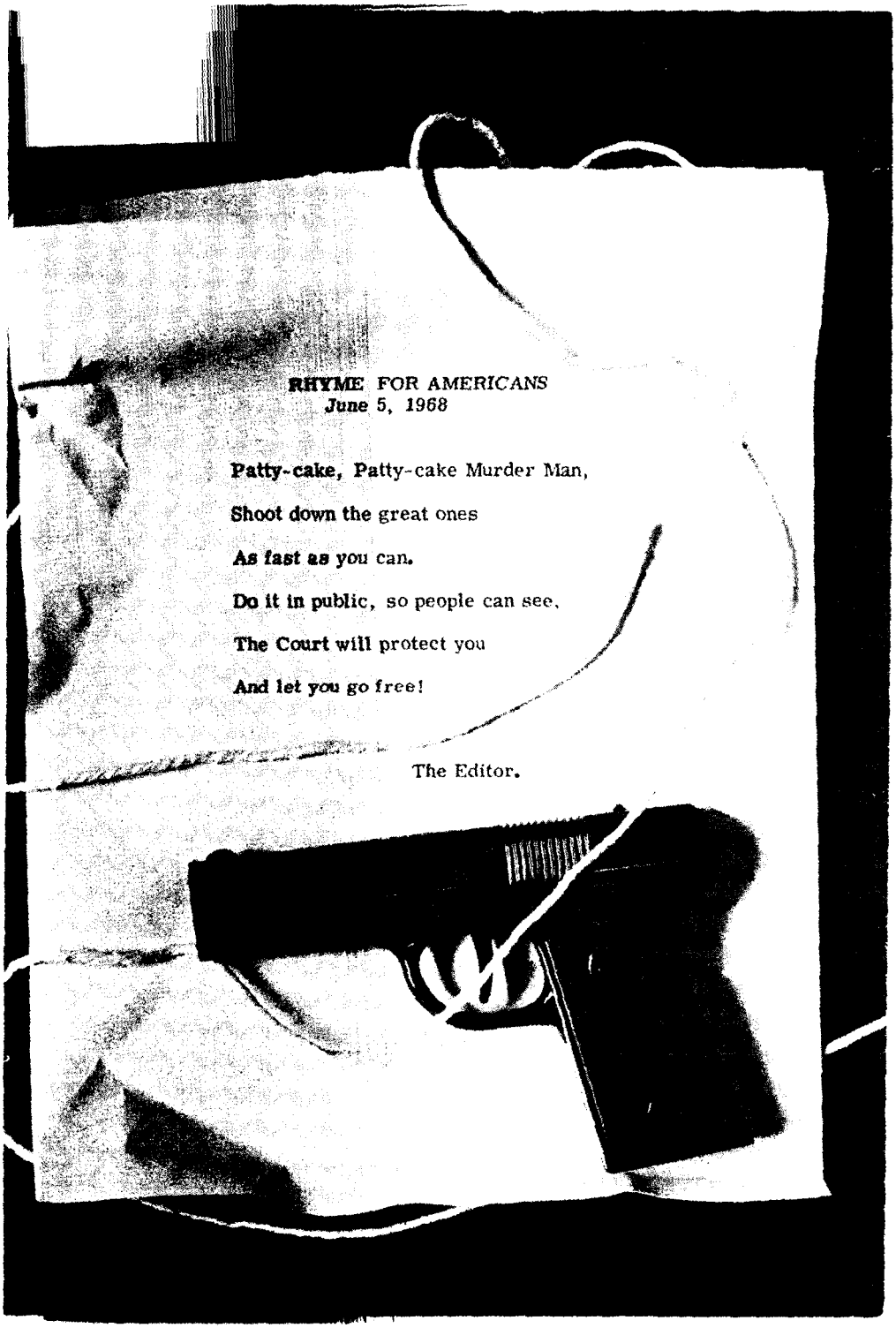
THE EDITOR'S PAGE ..... 5
IN TIMES TO COME ..... 96
THE ANALYTICAL LABORATORY ..... 96
THE REFERENCE LIBRARY, P. Schuyler Miller 166
BRASS TACKS ..... 172

COPYRIGHT © 1968 BY THE CONDÉ NAST PUBLICATIONS INC. ALL RIGHTS RESERVED. PRINTED IN THE UNITED STATES OF AMERICA. Analog Science Fiction/Science Fact is published monthly by the Condé Nast Publications, Inc, Executive, Publishing, Editorial and Advertising offices: 420 Lexington Avenue, New York, N.Y. 10017. I.S.V. Patcévitch, President; Alfred W. Cook, Treasurer; Mary E. Campbell, Secretary. Second class postage paid at New York, N. Y. and at additional mailing offices, under the Act of March 3, 1879. Subscriptions: in U.S. possessions and Canada, $6 for one year, $10 for two years, $13 for three years. Elsewhere, $8 for one year, $16 for two years. Payable in advance. Single copies: in U.S., possessions and Canada, 60¢. Six weeks are required for change of address. In ordering a change, write to Analog Science Fiction/Science Fact, Boulder Colorado 80302. Give both new and old address as printed on last label. The editorial contents have not been published before, are protected by copyright and cannot be reprinted without the publisher's permission. All stories in this magazine are fiction. No actual persons are designated by name or character. Any similarity is coincidental. We cannot accept responsibility for unsolicited manuscripts or art work. Any material submitted must include return postage.

POSTMASTER: SEND FORM 3579 to ANALOG SCIENCE FICTION/SCIENCE FACT, BOULDER, COLORADO 80302.

EDITORIAL AND
ADVERTISING OFFICES:
420 LEXINGTON AVENUE
NEW YORK, N. Y. 10017

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



**RHYME** FOR AMERICANS
*June 5, 1968*

**Patty-cake,** Patty-cake Murder Man,

**Shoot down the** great ones

**As fast as** you can.

**Do it in public,** so people can see,

**The Court will** protect you

**And let you go free!**

The Editor.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

# THE TUVELA

*First of Two Parts. The "tuvela" concept was an alien race's term for something they feared in the human race. Perhaps, if they'd read "The Hunting of the Snark," they'd have called the girl a Boojum!*

*BY JAMES SCHMITZ*

*Illustrated by John Schoenherr*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

1

As the pain haze began to thin out, Ticos Cay was somewhat surprised to find he was still on his feet. This had been a brutally heavy treatment—at moments it had seemed almost impossible to control. However, he *had* controlled it. The white-hot sensations, which hadn't quite broken through with full impact into consciousness, faded to something like a sullenly lingering glow. Then that faded, too. His vision began to clear.

Cautiously he allowed himself to accept complete awareness of his body again. It was still an unpleasant experience. There were sharp twinges everywhere, a feeling of having been recently pierced and sliced by tiny hot knives; the residue of pain. The lasting damage caused by one of these pain treatments to the human nervous system and sensory apparatus was slight but measurable. The accumulative effect of a series of treatments was no longer slight; and there had been over twenty of them during the past weeks. Each time now, taking stock of the physical loss he had suffered during the process, Ticos wondered whether he would be forced to acknowledge that the damage had spread to the point where it could no longer be repaired.

However, it hadn't happened on this occasion. His mind was fogged over; but it always was that way for a short while after a treatment. Reassured, he shifted attention from his internal condition to his surroundings.

The big room had come back into focus. Most of it was dark because the demons had cut out all but a central section of the ceiling illumination. There remained a pool of light which enclosed most of the long worktable against which he leaned and the raised platform twenty feet away from where they were watching him. The shelves and walls beyond, the rows of biological specimens, the arrays of analyzing and recording equipment, were in darkness.

Ticos Cay looked about, taking it in, drawing the trappings of reality back around him. He looked last at the demons.

"You succeeded again in avoiding the feeling of pain?" asked the small one of the three.

Ticos considered. The identity of the small demon was still blurred but coming clear. Yes, his name was Koll . . . the Great Palach Koll. One of the most influential among the leaders of the Everliving. Second in command of the Voice of Action . . .

Ticos admonished himself: *Be very careful of Koll!*

He made a sound between what might have been a muttering attempt to speak and a groan. He could have replied immediately. But it wouldn't do to think foggily while being interrogated—and par-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ticularly not while being interrogated by Koll.

The three stared silently, unmoving. Their skins, harnesses and other equipment gleamed wetly as if they had come out of the sea only minutes before entering the room. Which might be the case; salt water was the demons' element, and they became sick and uncomfortable if they remained too long away from it. The one to the right of Koll held a device with a glowing blue eye. When the glow brightened, a pain treatment was about to begin. The one at the left of Koll had a weapon trained on Ticos. These two were squat-heavy creatures hunkering on muscular hopping legs. Ticos had been obliged to watch one of their kind wrap his arms around the rib cage of a man and crush the man slowly to death.

It had been done at Koll's direction. The big demons were underlings; they were called Oganoon by the Palachs. Koll was of the same species but not large or heavy. Like many of the Great Palachs, he was a wrinkled miniature, not much more than a foot high. Cloaked and hooded, he looked like a shrunken mummy. But he could move like springing steel. Ticos had seen Koll leap eight feet to plunge a paralyzing needle into the eye of one of the Oganoon who had angered him. He struck five or six times, so quickly that the victim seemed to stiffen in death without understanding what had occurred.

Ticos strongly preferred not to anger Koll. But he needed as long a period of silence as Koll would permit to clear his head for the questions that would be directed at him. He had been maintaining a precarious balance between considerations on that order for some time. He waited until the speaking slit above Koll's eyes writhed open, then said, "I could not avoid all the pain. But it remained tolerable."

"It remained tolerable!" the speaking slit repeated as if Koll were musing over the statement. Ticos was accustomed to the fact that many of the Everliving had an excellent command of human speech, but Koll's voice still seemed unnatural to him. It was a deep warm voice, rich and strong, which shouldn't be issuing from such a malevolent little entity. "These children are afraid of you, Dr. Cay," it told him. "Did you know that?"

"No, I didn't," Ticos said.

"At a tenth of the setting used here," Koll explained, "these instruments are employed to punish them for serious offenses. They are in terror of them. They are afraid of you because you seem able to bear agony beyond their comprehension. And there are other reasons . . . your communicator has recorded six call signals during the past two days."

Ticos nodded. "So I heard."

"You predicted that one of the so-called Tuvelas would attempt to contact you here."



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Ticos hesitated, said, "The term Tuvela is yours. The person to whom you refer is known to me as a Guardian."

"Apparently the same class of creature," said Koll. "A creature assumed by some to possess abnormal qualities. Among them the quality of being invincible. Dr. Cay, what do you know of these remarkable qualities—if they exist?"

Ticos shrugged. "As I've told you, I've known of the Guardians and of their function in our civilization for a relatively short time. They operate very secretly. I've had personal contacts with only one of them. She appears to me to be an exceptionally capable human being. But if she or the Guardians generally have abnormal qualities, I don't know of them." He added, "Evidently the Everliving know more about the Guardians than I do."

"That is possible. You said they claim to be immortal."

Ticos shook his head. "I was told they've developed methods of restoring youthful health to an organism and maintaining it for a long period. I was not told they were immortal. To me the word does not have significant meaning."

"The concept of immortal entities is meaningless to you, Dr. Cay?"

Ticos hesitated again because this could become dangerous ground in speaking to a Palach. But he said, "Who can prove he was immortal before he's reached the end of time?"

Koll's dark face twitched. He might have been amused. "Who indeed?" he agreed. "Describe to me your relationship with these Guardians."

Ticos had described that relationship to Koll several times before. He said, "Two years ago I was asked whether I would enter their service. I accepted."

"Why?"

"I'm aging, Great Palach. Among my rewards was to be instruction in the Guardians' methods of obtaining longevity and regaining the advantages of youth."

"They've given you such instructions?"

"I've been instructed in some of the fundamental approaches. My progress evidently is satisfactory."

"In what way do you serve them, Dr. Cay?"

"I'm still undergoing a training process and haven't been told what my service is to be. I assume that my scientific background will play a part in it."

"The nerve controls you practice to distort the effects of the pain-giver were acquired through the longevity exercises?"

"Yes, they were."

A long pause followed his reply. Koll's speaking slit had closed and he remained unmoving. The lower sections of his double-lensed eyes were lidded; the upper sections



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

stared with a kind of baleful blankness at Ticos. The hulking servitors had become equally immobile, probably as a sign of respect. Ticos wasn't sure what the pause meant. The same thing had occurred during earlier interrogations. Perhaps the tiny monster was simply reflecting on what had been said. But he appeared sunk in a remote trance. If he was addressed now, he would ignore it, and he seemed unaware of motion about him. Ticos suspected there was the equivalent of human insanity in Koll. Even Great Palachs of his own rank seemed afraid of him, and he treated them with barely veiled contempt. His dark cowl and cloak were of utilitarian material and often indifferently clean, while they concealed their dwarfish bodies under richly ornamented garments, gleaming with jewels. Apparently they preferred to avoid Koll's company; but his influence on them was very strong.

The speaking slit above the eyes twisted open again.

"Dr. Cay," Koll's voice said, "I become increasingly inclined to add you to my museum of humanity. You have seen my collection?"

Ticos cleared his throat. "Yes," he said.

"Of course you have," Koll said, as if the fact had just occurred to him. "I showed it to you. As a warning not to lie to us. In particular, not to lie to me."

Ticos said warily, "I have been quite careful not to lie to you, Great Palach."

"Have you? I'm not at all certain of it," said Koll. "Do you believe that the person who is attempting to reach you by communicator is the Guardian of whom you told us?"

Ticos nodded. "Yes. The Guardian Etland."

"Why should it be she?"

"No one else has the call symbol of my communicator."

"Because you were to remain isolated here?"

"Yes."

"The Guardian Etland supervises your training?"

"Yes."

"You describe her as a young female," said Koll.

"I said she appears young," Ticos corrected him. "I don't know her age."

"You say that these Guardians or Tuvelas have developed a form of longevity which provides even the appearance of their species' youth—"

"The Guardian Etland has implied that."

"And yet," said Koll, "you tell us the Guardians assigned you the task of searching here for substances among the life forms of this world which promote longevity. What interest could the Guardians have in research which yields them no more than they possess?"

Ticos shrugged. "I know they're testing me in various ways, and it



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

may be that this is their manner of testing my ability as a biochemist. But it's also possible that they're still interested in finding simpler or more dependable methods of gaining longevity than their present ones."

"What part does the use of chemicals play in their present methods?"

"I don't know. I've described the basic approaches I was told to practice. I've been given no hint of the nature of more advanced longevity procedures. My research is confined to the observation of effects in my test material."

"You've suggested that research at this level could be of value to the Everliving—"

"I haven't suggested it," Ticos said. "I realize, of course, that a number of Palachs observe my test results and analyze the substances involved."

"Don't let yourself assume their scientific interest assures your continuing safety, Dr. Cay. Our methods of obtaining individual longevity require no improvement. I'm certain you are lying to us. I intend to determine in what manner you are lying. Why did you request permission to respond to the Guardian's call?"

"I explained my purpose to the Palach Moga," Ticos said.

"Explain it to me."

Ticos indicated the equipment and specimens in the darkened recesses of the room. "This project is the Guardian Etland's responsibility. I and my training are her responsibility. Until your arrival she came here at very regular intervals to inspect the progress I made. Since then she hasn't come here."

"What do you deduce from that?"

"It's possible that the Guardians know of your presence."

"I don't consider that a possibility, Dr. Cay."

Ticos shrugged. "It's the only explanation I see for the Guardian Etland's failure to maintain her schedule. The Guardians may prefer you to leave quietly before there is a general disturbance. If I'm permitted to turn on the communicator when she signals again, we may learn that the Guardian is on her way here to speak to the Everliving rather than to me—"

"She would come knowingly into the area we hold?" said Koll.

"From what several Palachs have told me," Ticos remarked, "it would not be surprising conduct in a Tuvela. If it is true—"

"We'll assume it isn't true, Dr. Cay."

"Then," said Ticos, "I should still be permitted to take the call and attempt to divert her from visiting me at this time. If she does not know you are here and arrives, she will discover you are here. And even if you are able to prevent her from leaving again—"

Koll made a hissing sound. "*If* we



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

are able to prevent her from leaving?"

"Your own records, as you've implied to me, indicate that Tuvelas are extremely resourceful beings," Ticos observed mildly. "But if you should capture or kill the Guardian, others will come promptly in search of her. Eventually your presence must be revealed." He shrugged. "I don't want these things to happen. As a servant of the Guardians, it is my duty to prevent them from happening if I can. As you're aware, I've been attempting to persuade some of the Everliving that your plans against my species must be abandoned before a general conflict becomes inevitable."

"I know that," said Koll. "You've had an astonishing—and shameful—degree of success. The Voice of Caution becomes increasingly insistent. Even the suggested use of your communicator is supported. Is it possible, Dr. Cay, that you are a Guardian who allowed himself to be captured in order to confuse the Everliving and weaken their resolution?"

"No," Ticos said. "I'm not a Guardian."

"You're a Hulon?"

"Since that's the name you give the general run of humanity, yes. I'm a Hulon."

"It was the name we had for a vicious and stupid creature we encountered in our past," Koll remarked. "We destroyed the creature, so the name was free to be bestowed again. Despite your efforts, our plans won't be abandoned, Dr. Cay. I know you're lying. Not too clumsily, but it will not be long before we put your story to the test. Now attend to your collection here—and reflect occasionally on mine."

Ticos did not see him make any gesture, but the Oganoon on Koll's right snapped the nerve-torture instrument to one of the harness straps about its bulky body and half turned. The tiny cowled mummy made one of its startlingly quick leaps and was perched on the underling's shoulder. The group moved off the platform and along a raised walkway towards the exit door, the armed servitor bringing up the rear, backing off in short powerful hops, weapon still pointed alertly at Ticos Cay. The lighting brightened back to normal in the big room.

Ticos watched the three vanish through the door, heard the heavy click of its locks. He drew a somewhat shaky breath, picked up a boxed device from the worktable and fastened it by its strap to his belt. It was a complicated instrument through which he controlled temperature, humidity, radiation absorption levels and various other matters connected with his biological specimens in different sections of the room.

His hands were unsteady. The in-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

terrogation hadn't gone to his liking. Koll wasn't his usual savagely menacing self—and that in spite of some deliberate provocation. He'd made use of the pain-giver only once. Koll, for Koll, had been affable.

It seemed a bad sign. It indicated that Koll was as confident as he appeared to be that he could dispel the doubts Ticos was nourishing in other leading Palachs by proving their prisoner had misinformed them. And, as a matter of fact, Ticos had totally misinformed them. Over a course of weeks he'd created a carefully organized structure of lies, half-truths and disturbing insinuations designed to fill the Everliving with the fear of Man, or at any rate with the fear of Tuvelas. Who, as far as Ticos Cay knew, didn't exist. Sometimes he'd been hard put to remain consistent, but by now the pattern was so familiar that it held an occasional illusion of truth even for him.

It had been effective in restricting their plans until now. In spite of Koll, it might remain effective—but that depended on a large factor of chance. Ticos sighed inaudibly. He'd reduced the factor as much as possible, but it was still too large. Far too large!

He moved slowly about the room, manipulating the studs of his device now and then, tending to the needs of the biological specimens. He'd never been able to determine whether he was under visual observation or not, but it was possible, and he must not appear too concerned. Occasionally he felt the floor lift and sink under him like the deck of a great ship, and then there would be a heavy sloshing of sea water in the partitioned end of the room. His communicator was in there. A permanent post of Oganoon guards was also in there to make sure he didn't get near the communicator unless the Everliving decided to permit it. And the water covering most of the floor was there because the guards had to keep their leathery hides wet.

From the energy-screened ventilator window near the ceiling came dim sounds like the muted roaring of a beast. That and the periodic heavings of the floor were the only indications Ticos had been given for the past several days that the typhoons still blew outside.

Rain squalls veiled half the sea below the aircar. It was storm season in the southern latitudes of Nandy-Cline. The horizon loomed blue-black ahead; heavy swirling cloud banks drove across the ocean to the south. The trim little car bucked suddenly in twisting torrents of air, was hauled about on its controls and, for the moment, rode steady again along a southeasterly course.

Inside the cabin, Nile Etland stabbed at a set of buttons on the panel communicator, said sharply into the transmitter, "Giard Phar-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

maceuticals Station—come in! Nile Etland calling . . . Giard, come in!"

She waited a moment, tanned face intent. A hum began in the communicator, rose to a wavering howl, interspersed with explosive cracklings. Impatiently, Nile spun the filter control right, then left. Racketing noise erupted along the scale. She muttered bitter comment. Her fingers flicked over the call buttons, picked out another symbol.

"Danrich Parrol—Nile calling! Come in! Dan, can you hear me? Come in!"

Silence for an instant. Then meaningless sound spat and spluttered again. Nile's lips twisted in angry frustration. She muted the speaker, glanced down at the animal curled in a thick loop of richly gleaming brown fur on the floorboards beside her. It lifted a whiskered head, dark eyes watching Nile.

"Dan?" it asked, in a high thin voice.

"No Dan! No anybody!" snapped Nile. "We keep hitting a soup of static anywhere beyond twenty miles all around."

"Soup?"

"Forget it, Sweeting. We'll try calling the sledmen. Maybe they can help us find Ticos."

"Find Tikkos!" Sweeting agreed. The furred shape shifted, flowed, came upright. Bracing short sturdy forelegs against the control panel, Sweeting peered at the sections of seascape and sky in the viewscreens, looked over at Nile. Seven and a half feet in length from nose to the tip of her muscular tail, she was the smaller of Nile's pair of mutant hunting otters. "Where's sledman?"

"Somewhere ahead." Nile had swung the car fifteen degrees to the east. "Settle down."

The sled she'd sighted in the screens several minutes earlier presently came to view again, now only a few miles away. The car's magnification scanners showed a five-hundred-foot floatwood raft with flattened, streamlined superstructure, riding its runners twelve yards above the surging seas. The central heavy-weather keel was down, knifing through the waves between the runners. On a day of less violence, the sled would have been drifting with an illusion of airy lightness over the water, kee, withdrawn, sails spread. Now the masts were hauled flat to the deck, and it was the set of cannon drives along the sled's edges which sent it rushing towards the moving front of the storm. The rain-darkened afterdeck was emblazoned with a pair of deep-blue triangles—the Blue Guul symbol of the Sotira Fleet.

As the sled vanished below the next cloud bank, Nile switched the communicator to the ten-mile close-contact band and said into the transmitter: "Dr. Nile Etland of Giard Pharmaceuticals calling Sotira sled! Acknowledge, please!"



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Close-contact seemed to have stayed operational. And they should know her by name down there. The Sotira sleds did regular sea-harvest work for Giard.

The communicator said suddenly, "Captain Doncar of Sotira sled acknowledging. Go ahead, Dr. Etland."

"I'm in the air behind you," Nile announced. "May I come aboard?"

A moment of silence. Then Doncar's voice said, "If you wish. But we'll be running through a heavy storm in less than fifteen minutes."

"I know—I don't want to lose you in it."

"Come down immediately then," Doncar advised her. "We'll be ready for you."

They were. Almost before Nile could climb out of the aircar, half a dozen men in swimming gear, muscular naked backs glistening in the slashing rain, had the small vehicle strapped securely against the sled's deck beside a plastic-shrouded object which might be an oversized harpoon gun. It was a disciplined, practiced operation. As they stepped back, a brown-skinned girl, dressed down for the weather like the crewmen, hurried up from the central row of cabins. She shouted something almost lost in the din of wind and rain.

Nile turned. "Jath!"

"This way, Nile! Before the slop drowns us—"

They sprinted back to the cabins through the solid downpour. The otter loped easily after them, given plenty of room by the deckhands. Many of Sweeting's relatives preferred the unhampered freedom of Nandy-Cline's ocean to a domesticated life; and the seagoing mutant otters were known to any sledman at least by reputation. Nothing was gained by asking for trouble with them.

"In here!" Jath hauled open a door, slipped into the cabin behind Nile and the otter and let the door slam shut. Towels lay ready on a table; she tossed two to Nile, dabbed a third perfunctorily over her copper skin. Sweeting shook spray from her fur with a twist that spattered half the cabin. Nile mopped at her dripping coveralls, handed back one of the towels, used the other to dry hair, face and hands. "Thanks!"

"Doncar can't get away at the moment," Jath told her. "He asked me to find out what we can do for you. So—what brings you out in this weather?"

"I'm looking for somebody."

"Here?" There was startled surprise in Jath's voice.

"Dr. Ticos Cay."

A pause. "Dr. Cay is in *this* area?"

"He might be—" Nile checked momentarily. Jath, in a motion as quick as it was purposeful, had cupped her right hand to her ear, lowered it again.

They knew each other well



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

enough to make the point of the gesture clear. Someone elsewhere on the sled was listening to what was being said in the cabin.

Nile gave Jath the briefest of understanding nods. Evidently there was something going on in this section of the sea which the Sotira sleds regarded as strictly sledman business. She was a mainlander, though a privileged one—an outsider.

She said, "I had a report from meteorological observers this morning about a major floatwood drift they'd spotted moving before the typhoons around here. The island Dr. Cay's been camping on could be part of that drift."

"You're not sure?"

"I'm not at all sure. I haven't been in touch with him for two months. But the Merala may have carried him this far south. I've been unable to get in contact with him. He's probably all right, but I've begun to feel worried."

Jath bit her lip, blue-green eyes staring at Nile's forehead. Then she shrugged. "You should be worried! But if he's on the floatwood the weather men saw, we would't know it."

"Why not? And why should I be worried?"

"Floatwood's gromgorru this season. So is the water twenty miles around any island. That's Fleet word."

Nile hesitated, startled. "When was the word given?"

"Five weeks ago," Jath told her.

Gromgorru—sledman term for bad luck, evil magic. The malignant unknown. Something to be avoided. And something not discussed, under ordinary circumstances, with mainlanders. Jath's use of the term was deliberate. It was not likely to please the unseen listeners.

A buzzer sounded. Jath gave Nile a quick wink.

"That's for me." She started for the door, turned again. "We have Venn aboard. They'll want to see you now."

Alone with Sweeting, Nile scowled uneasily at the closed door. What the gromgorru business in connection with the floatwood islands was she couldn't imagine. But if Ticos Cay was in this ocean area —and her calculations indicated he shouldn't be too far away—she'd better be getting him out.

## II

Ticos Cay had showed up unannounced one day at the Giard Pharmaceuticals Station on Nandy-Cline, to see Nile. He'd been her biochemistry instructor during her final university year on Orado. He was white-haired, stringy, bouncy, tough-minded, something of a genius, something of a crank, and the best all-around teacher she'd ever encountered. She was delighted to meet him again. Ticos informed her she was responsible for his presence here.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"In what way?" Nile Etland asked.

"The research you've done on the floatwood."

Nile gave him a questioning look. She'd written over a dozen papers on Nandy-Cline's pelagic floatwood forests, forever on the move about the watery planet where one narrow continent and the polar ice massifs represented the only significant barriers to the circling tides of ocean. It was a subject on which she'd been acquiring firsthand information since childhood. The forests she'd studied most specifically rode the great Meral Current down through the equatorial belt and wheeled with it far to the south. Many returned eventually over the same path, taking four to ten years to complete the cycle, until at length they were drawn off into other currents. Unless the polar ice closed about it permanently or it became grounded in mainland shallows, the floatwood organism seemed to know no natural death. It was an old species, old enough to have become the home of innumerable other species adjusted in a variety of ways to the climatic changes encountered in its migrations and of temporary guests who attached themselves to forests crossing the ocean zones they frequented, deserting them again or dying as the floatwood moved beyond their ranges of temperature tolerance.

"It's an interesting subject," she said. "But—"

"You're wondering why I'd make a three weeks' trip out here to discuss the subject with you?"

"Yes, I am."

"It isn't all I had in mind," said Ticos. "I paid a visit to Giard's Central in Orado City a month or so ago. I learned, among other things, that there's a shortage of trained field biologists on Nandy-Cline."

"That's an understatement."

"Evidently," Ticos remarked, "it hasn't hampered you too much. Your lab's held in high esteem by the home office."

"I know. We earn their high esteem by keeping way ahead of the competition. But for every new item we turn up with an immediate practical application for Giard, there are a thousand out there that remain unsuspected. The people who work for us are good collectors but they can't do instrument analysis and wouldn't know what to look for if they could. They bring in what you tell them to bring in. I still go out myself when I can, but that's not too often now."

"What's the problem with getting new hire?"

Nile shrugged. "The obvious one. If a man's a good enough biologist, he has his pick of jobs in the Hub. He'd probably make more here, but he isn't interested in coming all the way out to Nandy-Cline to do rough field work. I . . . Ticos, *you* don't happen to be looking for a job here with Giard?"



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

He nodded. "I am, as a matter of fact. I believe I'm qualified, and I have my own analytical laboratory at the spaceport. Do you think your station manager would consider me?"

Nile blinked. "Parrol will snap you up, of course! But I don't get it. How do you intend to fit this in with your university work?"

"I resigned from the university early this year. About the job here —I do have a few conditions."

"What are they?"

"For one thing, I'll limit my work to the floatwood islands."

*Why not*, Nile thought. *Provided they took adequate precautions.* He looked in good physical shape, and she knew he'd been on a number of outworld field trips.

She nodded, said, "We can fit you up with a first-class staff of assistants. Short on scientific training but long on floatwood experience. Say ten or—"

"Uh-uh!" Ticos shook his head decidedly. "You and I will select an island and I'll set myself up there alone. That's Condition Two. It's an essential part of the project."

Nile stared at him. The multiformed life supported by the floatwood wasn't abnormally ferocious; but it existed because it could take care of itself under constantly changing conditions, which included frequent shifts in the nature of enemies and prey, and in the defensive and offensive apparatus developed to deal with them. For the uninformed human intruder such apparatus could turn into a wide variety of death traps. Their menace was for the most part as mindlessly impersonal as quicksand. But that didn't make them any less deadly.

"Ticos Cay," she stated, "you're out of your mind! You wouldn't last! Do you have any idea—"

"I do. I've studied your papers carefully, along with the rather skimpy material that's available otherwise on the planet's indigenous life. I'm aware there may be serious environmental problems. We'll discuss them. But solitude is a requirement."

"Why in the world should—"

"From a personal point of view, I'll be involved here primarily in longevity research."

She hesitated, said, "Frankly I don't see the connection."

Ticos grunted. "Of course you don't. I'd better start at the beginning."

"Perhaps you should. Longevity research . . ." Nile paused "Is there some, uh, personal—"

"Is the life I'm interested in extending my own? Definitely. I'm at a point where it requires careful firsthand attention."

Nile felt startled. Ticos was lean but firmly muscled, agile and unwrinkled. In spite of his white hair, she hadn't considered him old. He might have been somewhat over sixty and not interested in cosmetic



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

hormones. "You've begun extension treatments?" she asked.

"Quite a while ago," Ticos said dryly. "How much do you know about the assorted longevity techniques?"

"I have a general understanding of them, of course. But I've never made a special study of the subject. Nobody I've known has—" Her voice trailed off again.

"Don't let it embarrass you to be talking to a creaky ancient about it," Ticos said.

She stared at him. "How old *are* you?"

"Rather close to two hundred standard years. One of the Hub's most senior citizens, I believe. Not considering, of course, the calendar age of old timers who resorted to longsleep and are still around."

Two hundred years was the practical limit to the human biological life span. For a moment Nile didn't know what to say. She tried to keep shock from showing in her face. But perhaps Ticos noticed it because he went on quickly, his tone light. "It's curious, you know, that we still aren't able to do much better along those lines! Of course, during the war centuries there evidently wasn't much attention given to such impractical lines of research."

"Impractical?" Nile repeated.

"From the viewpoint of the species. The indefinite extension of individual life units isn't really too desirable in that respect. Natural replacements have obvious advantages. I can agree in theory. Nevertheless, I find myself resenting the fact that the theory should also apply to me."

He'd started resenting it some two decades ago. Up to then he'd been getting by exceptionally well on biochemical adjustments and gene manipulations, aided by occasional tissue transplants. Then trouble began—so gradually that it was a considerable while before he realized there was a real problem. He was informed at last that adjustment results were becoming increasingly erratic and that there was no known way of balancing them more accurately. Major transplants and the extensive use of synthetics would presently be required. It was suggested that he get his memory stores computerized and transferred to an information bank for reference purposes—and then perhaps check in for longsleep.

Ticos found he didn't like any of the prospects. His interest level hadn't diminished noticeably, and he didn't care to have his activities curtailed by a progressively patched-up body or suspended indefinitely by longsleep. If he didn't take longsleep, he might make it past the two hundred year mark but evidently not by much. Previously he hadn't given a great deal of attention to regeneration research. Those problems were for other men—he had a large variety of pet



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

projects of his own going. Now he thought he'd better start investigating the field and look for more acceptable alternatives to the prognosis offered him.

"You've been doing that for the past twenty years?" Nile asked.

"Very nearly. Some thousands of lines of research are involved. It makes for a lengthy investigation."

"I thought most of those lines of research were over on the crackpot side," she remarked.

"A great many are. I still had to check them out. One problem here is that nobody can prove his method is going to work out indefinitely—no method has been practiced long enough for that. For the same reason it's difficult to disprove the value of any approach, at least to those who believe in it. So egos and individualism run rampant in that area. Even the orthodox work isn't well coordinated."

"You'd think the Federation would take a hand in it," Nile said.

"You might think so," Ticos agreed. "However, there may be a consensus at Overgovernment levels that, because of economic and other factors, the unlimited prolongation of life in human beings would have questionable value. At any rate, while the Federation doesn't discourage longevity research, it doesn't actively support it. You could say it tolerates it."

"What about their own lives? They're human."

He shrugged. "They may be putting their trust in longsleep—some happy future in which all such problems will be solved. I wouldn't know. Of course, a good many people suspect that if you're one of the elect, you'll have treatments that work indefinitely. It seems a little improbable. Anyway I'm betting largely on biochemistry now—the individual cells. Keep them cleared of degenerative garbage, and other problems may no longer be too significant. I made some improvements in that area a few years ago. An immediate result was improvements in myself. As a matter of fact, I've been given to understand they're probably the reason I'm still operational."

"You've written that up?" Nile asked.

"Not under my name. The university handles that end of it. I've kept the biochemical research going, but I've also been working on new slants since. It struck me frequently in the course of all this that our instincts evidently aren't in favor of letting us go on indefinitely."

She frowned. "What gives you that impression?"

"For one thing, the fact that we generally won't put out very much effort for it. A remarkable number of my earlier associates dropped out on treatments simply because they kept forgetting to do, or refused to do, the relatively simple things needed to stay alive. It was as though they'd decided it wasn't



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

important enough and they couldn't be bothered."

Nile said doubtfully, "You aren't exaggerating?"

"No. It's a common picture. The instincts accept the life and death cycle even when we're consciously opposed to it. They work for the species. The individual has significance to the species only to the point of maturity. The instincts support him until he's had an opportunity to pass along his genetic contribution. Then they start pulling him down. If a method eventually is developed to retain life and biological youth with *no* effort, it might be a different matter. Longsleep provides an illusion of that at present. But longsleep shelves the problem. I began to suspect longevity research itself is hampered by the instincts. And I'm not sure it isn't . . . we really *should* be farther along with it. At any rate, I decided to check with people who are interested in the less accessible areas of the mind. They're working in a major playground of the instincts, and they might have information—"

He'd found two groups who were obtaining longevity and rejuvenation effects as a by-product of mental experimentation. One was the Psychovariant Association. Nile knew as much about their work as they'd chosen to publish in the digests she followed. They used assorted fording procedures to extend and modify mental experience. "Don't they make heavy use of synthetics?" she asked.

Ticos nodded. "Yes. Not only to replace failing organs but to improve on healthy ones. That's their view of it. I don't fancy the approach myself. But they have systems of basic mind exercises directed at emotional manipulation. Longevity's a secondary interest, but they've accumulated plenty of evidence that the exercises support it. . . ."

The other project was a branch of the Federation's Psychology Service. Its goal was a total investigation of the mind and the gaining of conscious controls over its unconscious potential. The processes were elaborate. In the course of them, deep-reaching therapeutic adjustments were required and obtained. Physical regeneration frequently was a result—again not as a primary objective but as a beneficial side effect.

Ticos decided this approach also went beyond his own aims. His interests were outward-directed; his mind was an efficient instrument for that purpose, and he demanded no more of it. However, the goals of both organizations were as definitely bent on overcoming normal human limitations as longevity research. They were aware of the type of inherent resistances he had suspected and had developed methods of dealing with them.

"The matter of mind-body inter-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

action," he said. "I can learn to distinguish and control instinctual effects both in my mind and in associated physical processes. And that's what I've started to do."

He'd presented his problem to members of the two groups, and a modified individual schedule of mind-control exercises was worked out for him. He'd practiced them under direction until his mentors decided he was capable of continuing on his own. Then he'd closed out the final phases of his university work. His search for more effective biochemical serums would continue; he was convinced now it was the basic key to success.

"Keep the instincts from interfering and who knows—we might have it made!"

"Immortality?" asked Nile.

He gave her his quick grin. "Let's try for a thousand standard years first."

She smiled. "You almost have me believing you, Ticos! And how does becoming a floatwood hermit fit in with it all?"

"Nandy-Cline evidently is a simmering hotbed of life. I know the general type of substances I'll be looking for next, and I think I'm at least as likely to find them here as anywhere else."

Nile nodded. "You might find almost anything here. Why make it a one-man job?"

"Planned solitude," said Ticos.

"What will that do for you?"

"The mind exercises. Does it seem to mean anything if I say that at the stages at which I'll now be working I step outside the standard mental patterns of the species?"

She considered. "It doesn't seem to mean much. Very advanced stuff, eh?"

"Depends on the viewpoint. The people I dealt with consider it basic. However, it's difficult work. There's seepage from other mind patterns about you, and if they're established human ones they jar you out of what you're doing. They're too familiar. It's totally disruptive. So until I become sufficiently stable in those practices, it's necessary to reduce my contacts with humanity to the absolute minimum."

Nile shrugged. "Well, that's obviously out of my line. Still, I'd think . . . you just can't go into a room somewhere and shut the doors?"

"No. Physical distance is required. Plenty of it."

"How long is it going to be required?"

"The estimates I've had range from three to four years."

"In the floatwood?"

"Yes. It's to be both my work place and my source of materials. I can't park myself in space somewhere and continue to do meaningful research. And I think that adequate preparations should reduce any risks I'll encounter to an acceptable level. A reasonable degree of risk, as a matter of fact, will be all to the good."

"In what way?"



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"The threat of danger is a great awakener. The idea in this is to be thoroughly alert and alive—*not* shut away in a real or symbolical shell of some kind."

Nile reflected. "That makes a sort of sense," she agreed. She hesitated. "What's your present physical condition? I'll admit you look healthy enough."

"I'm healthier now than I was ten years ago."

"You don't need medical supervision?"

"I haven't needed it for several years. I've had one arterial replacement—the cultured product. That was quite a while ago. Otherwise, except for a few patches from around the same and earlier periods, my internal arrangements are my own. Nothing to worry about in that department."

"Well—we'll still have to convince Parrol it isn't suicide. But you're hired, Ticos. Make it a very high salary and nail down your terms, including your interests in anything that could classify as a longevity serum. After we've settled that, I'll start briefing you on the kind of difficulties you're likely to run into on your island. That can't be done in a matter of days. It's going to take weeks of cramming and on-the-spot demonstrations."

Ticos winked at her. "That's why I'm here."

She made it a very stiff cramming course. And Ticos turned out to be as good a student as he'd been an instructor. He had an alert, curious mind, an extraordinarily retentive memory. Physically he proved to be tough and resilient. Nile kept uprating his survival outlook, though she didn't mention it. Some things, of course, she couldn't teach him. His gunmanship was only fair. He learned to use a climb-belt well enough to get around safely; but to develop anything resembling real proficiency with the device required long practice. She didn't even attempt to instruct him in water skills. The less swimming he did around floatwood, the better.

They moved about the Meral from one floatwood drift to another, finally selected a major island complex which seemed to meet all requirements. A shelter, combining Ticos' living quarters, laboratory and storerooms, was constructed and his equipment moved in. A breeding group of eight-inch protohoms and cultures of gigacells would provide him with his principal test material; almost every known human reaction could be duplicated in them, usually with a vast advantage in elapsed time. The structure was completely camouflaged. Sledmen harvesting parties probably would be about the island from time to time, and Ticos didn't want too many contacts with them. If he stayed inside until such visitors left again, he wouldn't be noticed.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

He had a communicator with a coded call symbol. Unless he got in touch with her, Nile was to drop by at eight-week intervals to pick up what he had accumulated for the Giard lab and and leave supplies. He wished to see no one else. Parrol shook his head at the arrangement; but Nile made no objections. She realized that by degrees she'd become fiercely partisan in the matter. If Ticos Cay wanted to take a swing at living forever, on his feet and looking around, instead of fading out or sliding off into longsleep, she'd back him up, however he went about it. Up to this point he hadn't done badly.

And somewhat against general expectations then, he lasted. He made no serious mistakes in his adopted environment, seemed thoroughly satisfied with his life as a hermit, wholly immersed in his work. The home office purred over his bimonthly reports. Assorted items went directly to the university colleagues who had taken over his longevity project there. They also purred. When Nile had seen him last, he'd been floating along the Meral for eighteen months, looked hale and hearty and ready to go on for at least the same length of time. His mind exercises, he informed Nile, were progressing well.

## III

There were three men waiting in the central cabin of the Sotira sled to which Jath presently conducted Nile. She knew two of them from previous meetings, Fiam and Pelad. Both were Venn, members of the Fleet Venntar, the sledman center of authority—old men and former sled captains. Their wrinkled sun-blackened faces were placid; but they were in charge. On a sled a Venn's word overrode that of the captain.

Doncar, the sled captain, was the third. Quite young for his rank, intense, with a look of controlled anger about him. Bone-tired at the moment. But controlling that, too.

Jath drew the door shut behind Nile and the otter, took a seat near Doncar. She held a degree of authority not far below that of the others here, having spent four years at a Hub university, acquiring technical skills of value to her people. Few other sledmen ever had left Nandy-Cline. Their forebears had been independent space rovers who settled on the water world several generations before the first Federation colonists. By agreement with the Federation, they retained their independence and primary sea rights. But there had been open conflict between the fleets and mainland groups in the past, and the sleds remained traditionally suspicious of the mainland.

Impatience tingled in Nile, but she knew better than to hurry this group. She answered Pelad's questions, repeating essentially what she had told Jath.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"You aren't aware of Dr. Cay's exact location?" Pelad inquired. Ticos had become a minor legend among the sled people who knew of his project.

Nile shook her head.

"I can't say definitely that he's within four hundred miles of us," she said. "This is simply the most likely area to start looking for him. When I'm due to pay him a visit, I give him a call and he tells me what his current position is. But this time he hasn't answered."

She added, "Of course there've been intensive communication interferences all the way in to the mainland in recent weeks. But Dr. Cay still should have picked up my signal from time to time. I've been trying to get through to him for the past several days."

Silence for a moment. Then Pelad said, "Dr. Etland, does the mainland know what is causing the interferences?"

The question surprised, then puzzled her. The interferences were no novelty; their cause was known. The star type which tended to produce water worlds also produced such disturbances. On and about Nandy-Cline the communication systems otherwise in standard use throughout the Federation were rarely operable. Several completely new systems had been developed and combined to deal with the problem. Among them, only the limited close-contact band was almost entirely reliable.

Pelad and the others here were as aware of that as she. Nile said, "As far as I know, no special investigation has been made. Do the sleds see some unusual significance in the disturbances?"

"There are two views," Jath told her quietly. "One of them is that some of the current communication blocks are gromgorru. Created deliberately by an unknown force—possibly by an unnatural one."

Pelad glanced at Jath, said to Nile, "The Venntar has decreed silence in this. But young mouths open easily, perhaps too easily. We may have reason to believe there is something in the sea that hates men. There are those who hear voices in the turmoil that smothers our instruments. They say they hear a song of hate and fear." He shrugged. "I won't say what I think —as yet I don't know what to think." He looked at Fiam. "Silence might have been best, but it has been broken. Dr. Etland is a proven friend of the sleds."

Fiam nodded. "Let the captain tell it to our guest."

Doncar grinned briefly. "Tell it as I see it?"

"As you see it, Doncar."

"Very well." Doncar turned to Nile. "Dr. Etland, so far you've been asked questions and given no explanation. Let me ask one more question: Could human beings cause such communication problems?"



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"By duplicating the solar effect locally?" Nile hesitated, nodded. "It should be possible. Is there reason to believe it's being done?"

"Some of us think so," Doncar said dryly. "We've lost men."

"Lost them?"

"They disappear. Work parties harvesting a floatwood island—small surface craft and submersibles in the immediate vicinity of floatwood. Later no traces are found. Whenever this occurred, communication in the area was completely disrupted."

"To keep the men from reporting attackers?"

"That's what's suspected," Doncar said. "It's happened too regularly to make coincidences seem probable. You understand, Dr. Etland, that this isn't a problem which affects only the Sotira Sleds. There have been similar disappearances near floatwood islands in many sea areas of late."

Nile asked for details, her mind beginning to race. She and Parrol were known as accomplished troubleshooters. They considered it part of their job; it was in Giard's interest to keep operations moving as smoothly as possible on Nandy-Cline. The sledmen had benefitted by that in the past as had the mainland. And trouble—man-made trouble—was always likely to arise. The planet's natural riches were tempting—particularly when some new discovery was made and kept concealed.

This then might be such trouble on a large scale. The pattern of disappearances had begun north of the equator, spread down through the Sotira range. It had started three months ago. And the purpose, she thought, presumably was to accomplish precisely what it had accomplished—to keep the sleds away from the islands. For a period long enough to let whoever was behind the maneuver clear out whatever treasure of rare elements or drugs they'd come across and be gone again.

No local organization was big enough to pull off such a stunt. But a local organization backed by a Hub syndicate could be doing it—

Gromgorru? Nile shrugged mentally. The deeps of Nandy-Cline were only sketchily explored; great sections of the ocean floor remained unmapped. But she had very little faith in unknown malignant powers. In all her experience, whenever there was real mischief afoot, human operators had been found behind it.

The others here were less sure. There was something like superstitious dread unspoken but heavy in the air of this cabin, with the deck shuddering underfoot and the typhoon howling and thudding beyond the thick walls. She thought Doncar and Jath weren't free of it. Jath had acquired a degree of sophistication very uncommon among the sledmen. But she still was a woman of the sea sleds,



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

whose folk had drunk strangeness for centuries from the mysteries of ocean and space. Space life and sea life didn't breed timid people. But it bred people who would not go out of their way to pit themselves against forces they could not understand.

Nile said to Pelad, "You spoke of those who hear voices of hate when the communicators are blanked out."

The Venn's eyes flickered for an instant. He nodded.

"Do the other-seeing"—Nile used the sledman term for psi sensitives —"connect these voices with the disappearances in the floatwood drifts?"

Pelad hesitated, said, "No. Not definitely."

"They haven't said this is a matter men can't handle?"

"They haven't said it," Pelad agreed slowly. "They don't know. They know only what they've told us."

So the witch doctors had suggested just enough to stall action. Nile said, "Then there may very well be two things here. One, what the other-seeing sense. The second, a human agency which is responsible for the present trouble in the floatwood. What if the sleds learn that is the case?"

Doncar said, "There're six spaceguns mounted on this sled, Dr. Etland, and men trained in their use."

"I myself," said Pelad, "am one of those men."

Fiam added, "There are two other Sotira sleds not far from here. Each armed with four spaceguns—very old guns but in excellent working order." He gave Nile a brief smile. "The mainland may recall them."

"The mainland does," Nile agreed. "You'll fight if you know you're not fighting gromgorru?"

"We'll fight men," Pelad said. "We have always fought men when necessary. But it would be unwise to challenge blindly an evil which may not be affected by guns and which might be able to wipe the sleds from the sea." His face darkened again. "Some believe there is such an evil at no great distance from us."

She must be careful at this point. Still, so far, so good. In their minds the Venn were committed now to fight, if shown an enemy with whom weapons could deal. Too early to ask them to cooperate with mainland authorities in this. Their distrust was too deep.

Five minutes later she knew what she must do. Her immediate concern was to get Ticos out of harm's way. The big floatwood drift for which she had been looking was eighty miles south of this point. A Sotira seiner had been missing for several days, and the last reports from it indicated it might have moved too near the drift in the storm and become another victim of whatever menace



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

haunted floatwood waters. Doncar's sled had been hunting for the seiner in the vicinity of the drift but found no clue to what had happened. The search had now been abandoned.

There were no other sizable floatwood islands within two hundred miles. Therefore the one on which Ticos had set up his project should be part of the drift. It was almost a certainty. If she took her aircar there at once, she could identify the island while daylight remained. The risk shouldn't be too great. Aircars hadn't come under attack, and the one she had was a fast sports model. If there was a suggestion of hostile action, she could clear out very quickly. If there wasn't, she'd try to wake Ticos up on the close-contact channel and establish what the situation down there was. She might have him out inside an hour.

If that didn't work, she wasn't equipped to do much more by herself; and she needed reinforcements in any case before trying to determine who might have been turning the floatwood islands into death traps.

She asked, "Can you get a message through to the mainland?"

They nodded, the Venn warily. Jath said, "It may take a number of hours. But so far the fleets have always been able to relay messages through disturbance areas."

Fiam inquired, "What's the message, Dr. Etland? And to whom will it go?"

"It goes to Danrich Parrol," Nile told him. "The Giard Station will be able to locate him." She couldn't become too specific about gromgorru matters or the message would be blocked before it reached the mainland. "Give Parrol the location of the floatwood drift south of us. I'll wait for him there. Tell him I may have a problem getting Dr. Cay off his island, and that I'd like him to come out with full trouble-shooting equipment—"

"*And* Spiff!" a thin voice interrupted emphatically from the corner of the room.

The sledmen looked around, startled. Sweeting blinked at them, began nosing her chest fur disinterestedly. People who didn't know Sweeting well frequently were surprised by the extent to which she followed the details of human discussions.

"And Spiff, of course," Nile agreed. "If we find out what's been happening around the floatwood, we'll try to get word to you at once."

Fiam nodded quickly. "Six hours from now we'll have a racing sled in the drift. Any close-contact message should be picked up. Code Sotira-Doncar, on the sledmen frequencies."

"The Great Palach Koll," said the demon on the platform, "has persuaded the Everliving to permit him to test the Tuvela Theory."

Ticos Cay didn't reply immedi-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ately. His visitor was the Palach Moga, one of the Everliving, though of lower grade than the Great Palachs and somewhere between them and the Oganoon in physical structure, about Ticos' size and weight. Moga didn't squat but stood upright, long hopping legs stretched out, walked upright when he walked, with short careful awkward steps. His torso was enclosed in an intricate close-worked harness of silver straps. In what was happening here he and Ticos Cay had become cautious allies. Ticos was aware that the alliance might be of very temporary nature.

"I was under the impression," he told Moga, "that the Voice of Caution was able to keep the reckless demands of the Great Palach from being given a hearing."

Moga's speaking slit twisted in agitation.

"We have done it until now," he said. "But the Great Palach has assumed control of the Voice of Action. He accused his predecessor of a Violation of Rules, and the Everliving found the accusation valid. The predecessor was granted the death of a Palach. You must understand that in his new position Koll's demands can no longer be silenced."

"Yes, I see." Advancement usually came the hard way among the demons. Two favored methods were a ritualized form of assassination and having one's superior convicted of a Violation of Rules. They had the same practical result. Ticos swallowed. Bad—very bad. He leaned back against the worktable to avoid revealing that his legs were trembling. "How does the Great Palach propose to test the Tuvela Theory?"

"The Guardian Etland is again attempting to contact you," Moga said.

"Yes, I know." The communicator in the partitioned end of the room had signaled half a dozen times during the past half hour.

"The signals," Moga explained, "are on the cambi channel."

The close-contact band! Ticos said thickly: "She already is in the area?"

"Could anyone else be seeking for you here?"

"No."

"Then it is the Guardian. There is a human airvehicle high overhead. It is very small but rides the storm well. It moves away, returns again."

"The island growth has changed since she was here last," said Ticos. "She may not have determined yet on which of these islands I should be!" He added urgently, "This gives us a chance to forestall actions by Koll! I have the Guardian's call symbol—"

Moga gave the whistle of absolute negation.

"It is now quite impossible to approach your communicator," he said. "I would die if I attempted it unless it were under open orders of the Everliving. Koll will be allowed



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

to carry out his plan. He has arranged tests to determine whether a Tuvela is a being such as the Tuvela Theory conjectures it to be. The first test will come while the Guardian is still in the air. At a selected moment the Great Palach will have a device activated which is directed at her vehicle. If she responds promptly and correctly, the vehicle will be incapacitated, but the Guardian will not be harmed. If she does not respond promptly and correctly, she dies at that point."

Moga stared at Ticos a moment. "The significance of her death, of course, will be the Everliving's conclusion that Tuvelas lack the basic qualities ascribed to them. The Great Plan is now in balance. If the balance is to shift again in favor of the Voice of Caution, the Guardian must not fail. Her class is being judged in her. If she fails, Voice of Action attains full control.

"Let us assume she passes this first test. The vehicle will descend to a point where Koll's personal company of Oganoon await the Guardian. Unless she has weapons of great effectiveness, she must surrender to them. Note that if she does not surrender and is killed, it will be judged a failure. A Tuvela, as Tuvelas are assumed to be, will not make such mistakes. A Tuvela will surrender and await better opportunities to act to advantage."

Ticos nodded slowly. "I'll be able to speak to the Guardian if she is captured?"

"No, Dr. Cay. Only the Great Palach Koll will speak to the Guardian following her capture. The tests will continue at once and with increasing severity until the Guardian either dies or proves to the Everliving beyond all doubt that the Tuvela Theory is correct in all its implications—specifically, that the Tuvelas, individually and as a class, are the factor which must cause us, even at this last moment, to halt and reverse the Great Plan. Koll is staking his life on his belief that she will fail. If she fails, he will have proved his point. The Everliving will hesitate no longer. And the final stages of the Plan will be initiated."

"In brief," Ticos said slowly, "the Great Palach intends to discredit the Tuvela Theory by showing he can torture the Guardian to death and add her to his collection of trophies?"

"Yes. That is his announced plan. The torture, of course, is an approved form of test. It is in accord with tradition."

Ticos stared up at him, trying to conceal his complete dismay. There was no argument he could advance. This was the way they were conditioned to think. Before a Palach became a Palach he had submitted to painful tests which few survived. As he progressed towards the ultimate form of existence which was a Great Palach, he was tested again and again. It was their manner of evaluation, of judgment. He had



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

convinced a majority of them that Tuvelas were at least their human counterpart. Some were convinced, however unwillingly, that the counterpart was superior to the greatest of the Great Palachs—opponents too deadly to be challenged. Koll's move was designed to nullify that whole structure of thought.

"I'll keep you informed of what occurs, Dr. Cay," Moga concluded. "If you have suggestions which might be useful in this situation, have word sent to me immediately. Otherwise we now see no way to block Koll's purpose—unless the Guardian herself proves able to do it. Let us hope that she does."

The Palach turned, moved off down the walkway towards the exit door. Ticos gazed after him. There was a leaden feeling of helplessness throughout his body. For the moment it seemed difficult even to stir from where he stood.

He didn't doubt that Nile Etland was the operator of the aircar they were watching—and he had been hoping very much she wouldn't arrive just yet.

Given even another two weeks, he might have persuaded the Everliving through the Voice of Caution to cancel the planned attack on Nandy-Cline and withdraw from the planet. But Nile's arrival had precipitated matters and Koll was making full use of the fact. The one way in which Ticos could have warned her off and given her a clue to what was happening was closed completely.

Four words would have done it, he thought. Four words, and Nile would have known enough, once he'd switched on the communicator. He'd made preparations to ensure nobody was going to stop him before he got the four words out.

But now—without Moga's help, without the permission of the Everliving—he simply couldn't get to the communicator. It wasn't a question of the guards. He'd made other preparations for the guards. It was the devastatingly simple fact that the partitioning wall was twelve feet high and that there was no door in it. Ticos knew too well that he was no longer in any condition to get over the wall and to the communicator in time to do any good. They'd turn him off before he turned it on. He didn't have the physical strength and coordination left to be quick enough for such moves.

If Nile had arrived a couple of weeks earlier, he could have done it. He'd counted then on being able to do it. But there'd been a few too many of their damned pain treatments since.

And if she'd delayed coming out by just two weeks, no warning might have been necessary.

But she was punctual as usual—right on time!

Well, Ticos told himself heavily, at least he'd arranged matters so that they wouldn't simply blast her



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

out of the air as she came down to the island. It left her a slim chance.

However, it seemed time to start thinking in terms of last-ditch operations—for both of them. He had his preparations made there, too. But they weren't very satisfactory ones.

"Hungry," Sweeting announced from the aircar's floor beside Nile.

"So starve," Nile said absently. Sweeting opened her jaws, laughed up at her silently.

"Go down, eh?" she suggested. "Catch skilt for Nile, eh? Nile hungry?"

"Nile isn't. Go back to sleep. I have to think."

The otter snorted, dropped her head back on her forepaws, pretended to close her eyes. Sweeting's kind might be the product of a geneticist's miscalculation. Some twenty years before, a consignment of hunting otter cubs had reached Nandy-Cline. They were a development of a preserved Terran otter strain, tailored for an oceanic existence. The coastal rancher who'd bought the consignment was startled some months later when the growing cubs began to address him in a slurrily chopped-up version of the Hub's translingue. The unexpected talent didn't detract from their value. The talkative cubs, playful, affectionate, handsomely pelted, sold readily, were distributed about the seacoast ranches and attained physical maturity in another year and a half. As water hunters or drivers and protectors of the sea herds, each was considered the equivalent of half a dozen trained men. Adults, however, sooner or later tended to lose interest in their domesticated status and exchanged it for a feral life in the sea, where they thrived and bred. During the past few years sledmen had reported encounters with sizable tribes of wild otters. They still spoke in translingue.

Nile's pair, hand-raised from cubhood, had stayed. She wasn't quite sure why. Possibly they were as intrigued by her activities as she was by theirs. On some subjects her intellectual processes and theirs meshed comfortably. On others there remained a wide mutual lack of comprehension. She suspected, though she'd never tried to prove it, that their overall intelligence level was very considerably higher than estimated.

She was holding the aircar on a southwest course, surface scanners shifting at extreme magnification about the largest floatwood island in the drift, two miles below, not quite three miles ahead. It looked very much like the one Ticos Cay had selected. Minor differences could be attributed to adaptive changes in the growth as the floatwood moved south. There were five major forest sections arranged roughly like the tips of a pentacle. The area between them, perhaps a mile across, was the lagoon, a stan-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

dard feature of the islands. Its appearance was that of a shallow lake choked with vegetation, a third of the surface covered by dark-green leafy pads flattened on the water. The forests, carrying the semiparasitical growth which clustered on the floatwood's thick twisted boles, towered up to six hundred feet about the lagoon, living walls of almost indestructible toughness and density. The typhoon battering through which they had passed had done little visible damage. Beneath the surface they were linked by an interlocking net of ponderous roots which held the island sections clamped together into a single massive structure.

The island was moving slowly to the south, foam-streaked swells running past it on either side. This might be the southern fringe of the typhoon belt. The sky immediately overhead was clear, a clean deep blue. But violent gusts still shook the car, and roiling cloud banks rode past on all sides.

Ticos Cay's hidden arboreal laboratory should be in the second largest section of the floatwood structure, about a third of the way in on the seaward side. He wasn't responding to close-contact communicator signals; but he might be there in spite of his silence. In any case it was the place to start looking. There'd been no sign of intruders—which didn't mean they weren't there. The multiple canopies of the forests could have concealed an army. But intruders could be avoided.

Nile thought she might be able to handle this without waiting for Parrol. It was late afternoon now, and even if there were no serious delays in getting her message to him, it would be at best the middle of the night before he could make it out here. To drop down openly to the floatwood would be asking for trouble, of course, though there had been no reports of attacks on aircars as yet. But she could circle south, go down to sea level, submerge the car and maneuver it back underwater to the island through the weed beds which rode the Meral. If she'd had her jet-diving rig with her, she wouldn't have hesitated. She could have left the car a couple of miles out, gone in at speed and brought Ticos out with her if he was in his hideaway, with almost no risk of being noticed by whoever else might be about. But she didn't have the rig along. That meant working the car in almost to the island, a more finicky operation.

But it could be done. The submerged weed jungles provided the best possible cover against detection instruments.

Nile checked course and altitude, returned her attention to the magnification scanners. Everything down there looked normal. There was considerable animal activity about the lagoon, including clouds of the flying kesters which filled the role of sea and shore birds in



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Nandy-Cline's ecological pattern. In the ocean beyond the floatwood at the left, two darkly gleaming torpedo-shaped bodies appeared intermittently at the surface. They were kesters too, but wingless giants: sea-havals, engaged in filling their crops with swarms of skilts. Their presence was another good indication that this was Ticos' island. There'd been a sea-haval rookery concealed in the forest section next to the one he'd selected—

An engine control shrieked warning, and a sullen roaring erupted about them. Nile saw a red line in the fuel release gauge surge up towards explosion as her hand flicked out and cut the main engine switch.

The shrieking whistle and the roar of energies gone wild subsided together. Losing momentum, the car began to drop.

"Nile?"

"We're in trouble, Sweeting." The otter was on her feet, neck fur erect, eyes shifting about. But Sweeting knew enough to stay quiet in emergencies that were in Nile's department.

Energy block . . . it could be a malfunction. But that type of malfunction occurred so rarely it had been years since she'd heard of one.

Someone hidden in the floatwood had touched the car with a type of weapon unknown to her, was bringing her down. The car's built-in antigrav patterns would slow their descent. But—

Nile became very busy.

When she next looked at the altimeter, it told her she had approximately three minutes left in the air. Wind pressure meanwhile had buffeted the car directly above the island, a third of the way out across the lagoon. That would have been the purpose of killing her engines at the exact moment it was done. When the car splashed into the lagoon's vegetation, she'd find a reception committee waiting.

She was in swim briefs by now for maximum freedom of action in water or in the floatwood. Fins and a handkerchief-sized breather mask lay on the seat. Most of the rest of what she was taking along had been part of the floatwood kit she'd flung into the back of the car on leaving the Giard Station. Various items were attached to a climb-belt above her waist—knife, lightweight UW gun, grip sandals, a pouch containing other floatwood gear she didn't have time to sort over. The otter caller she used to summon Sweeting and Spiff from a distance was fastened to her wrist above her watch. Her discarded clothing was in a waterproof bag.

"Remember what you're to do?"

"Yesss!" Sweeting acknowledged with a cheery hiss.

Sweeting would remember. They were going to meet some bad guys. Not at all a novel experience. Sweeting would keep out of sight and trouble until Nile had more specific instructions for her.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The bad guys hadn't showed yet. But they must be in the lagoon, headed for the area where the car seemed about to come down. It was rocking and lurching in the gusts towards a point some three hundred yards from the nearest floatwood. Not at all where Nile wanted it to go. But she might be able to improve her position considerably.

She sat quiet throughout the last moments, estimating the force of the wind, eyes shifting between the altimeter and a landing area she'd selected on the far side of the water. Then, a hundred yards from the surface, she pushed down a stud which slid out broad glide-vanes to either side of the car.

The fringes of a typhoon were no place for unpowered gliding. Like the blow of a furious fist, wind slammed the vehicle instantly over on its side. Seconds of wild tumbling followed. But she had the momentum now to return some control of the car's motion to her. To hostile watchers in the lagoon and the floatwood it must have looked like a futile and nearly suicidal attempt to escape—as it was intended to look. She didn't want them to start shooting. Twice she seemed within inches of being slammed head-on into the water, picked up altitude at the last instant. Most of the width of the lagoon lay behind her at that point, and a section of forest loomed ahead again. A tall stand of sea reeds, perhaps three hundred yards across, half enclosed by gnarled walls of floatwood, whirled below.

Wind force swept the car down once more, too fast, too far to the right. Nile shifted the vane controls. The car rose steeply, heeled over, swung sideways, momentum checked—and that was almost exactly where she wanted it to be. She slapped another stud. The vanes folded back into the vehicle. It began to drop, antigrav effect taking over. Nile reached for the fins, snapped them on her feet. Green tops of the reeds whipped suddenly about the car. She drew the transparent breather mask over her face, pressed its audio plugs into her ears. Car door open, set on lock . . . dense vegetation swaying jerkily with wet crashing sounds on all sides as the car descended through it—

Thump and splash!

Sweeting slithered past Nile's feet, flowed down over the doorsill, vanished into the lagoon without a sound. Nile pitched the clothing bag through the door, swung about on the seat, slid out into cool water. Turning, she caught a handgrip on the side of the car, reached up, slammed the door shut on its lock.

She saw the bag floating beside her, caught its strap and went down.

## IV

The sea reeds, rising from layers of muck packed into the matted



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

root system of the island thirty feet below, grew thick and strong. Almost in moments after leaving the car, Nile knew she was relatively safe from immediate pursuit. On her way across the lagoon she'd had a flashing glimpse of an enclosed boat coming about in a tight circle among the pads to follow her. It wouldn't be long before it reached the reeds, and it might have divers aboard. In open water a jet diver advancing behind a friction-cutting field would have overhauled her in seconds. But jet rigs gave little real advantage when it came to slipping in and out of slime-slick dense growth; and if one had been in operation within a hundred yards, her audio plugs would have distinguished its thin hissing through the medley of sea sounds.

She moved on quickly towards the forest. Small life scuttled and flicked away from her gliding shape. A school of eight-inch skilts exploded suddenly about her in a spray of silver glitters. Sweeting, out of sight but somewhere nearby, might have turned aside for a fast snack. Something large and dark stirred ahead; a dorashen, some five hundred pounds of sluggish ugliness, black armor half concealed by a rusty fur of parasites, was backing off from her advance, pulling itself up along the reem stems, multiple jaws working in menacing snaps.

Suddenly darkening of the water told her she'd reached the base of the forest. The reed growth ended and thick twisted floatwood trunks appeared through murky dimness. She stroked up to them, paused to look back. A dim regular rumbling had begun in the audio pickups—the sound of engines. But they weren't close.

Ticos Cay's hidden dwelling was less than a quarter-mile from here. Getting there unobserved would be the next move. A few minutes later, deep within the forest, in the maze of dark caverns formed by huge supporting trunks above the submerged roots, Nile lifted her head above the surging ocean surface, pulled off the breather. The otter's head appeared a dozen feet away.

"People here?" Nile asked.

"Smell no people."

"Boats?"

"Skilt boat. Coming slow."

"How big?"

"Big as three cars, heh."

No divers, and nobody upwind of them in the forest. Sweeting used nostrils in air, sensitive olfactories in the lining of her mouth in water. What she couldn't scent usually wasn't there. Skilt boat meant a submersible. It might have been the boat Nile had glimpsed in the lagoon. When Sweeting saw it, it was approaching the reed bed under water. Its crew should discover the ditched aircar in a few minutes.

"Kill?" the otter asked.

"Not yet. Go back and watch what they're doing till I call you."

Sweeting vanished. Nile moved



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

on through dark shifting water, avoiding contact with the giant trunks. They were coated with slime, heavily populated with crawling things. Not a pleasant place to be; but this level provided a quick route to the seaward side of the forest, and she intended to make her ascent from there. Presently she saw daylight flash intermittently through the snaky tangles of floatwood ahead.

Far enough. She found a place to get out of the water, scrambled up to a horizontal perch and knotted the strap of the bag containing her discarded coveralls and other personal items around a spike of wood. The fewer clues to the car's occupants left for investigators, the better. She exchanged fins for grip sandals, fastened the fins to her climb-belt, switched the belt to its quarter-weight setting and stood up on the trunk.

There was a partial gravity shield about her now. Ordinary progress in a floatwood forest was an activity somewhere between mountaineering and tree climbing. With a climb-belt and sufficient practice in its use, it became not much more arduous than motion along level ground. Nile started up. The forest had no true floor, but a thick carpet of parasitic growth, trailing drinking roots to the sea, stretched out overhead. She pushed through the stuff, came into a relatively open area.

She stood glancing about, letting senses and mind adjust again to what was here. It was long-familiar territory. She'd been born in one of the shallows settlements of Nandy-Cline, halfway around the globe from the mainland; and whenever one of the swimming islands moved near, her people had gone to harvest from it what was in season, taking their children along to teach them the floatwood's bounty and perils. Making the islands the subject of extensive studies later on had been a natural consequence.

Though this was less densely growth-infested than the central forest levels, vision was restricted to at most a hundred feet in any direction. In the filtered half-light, the host organism was represented by unbranched reddish-brown boles, sloping and twisting upwards—enormously massive, as they had to be to support all the rest. Sprouting or hanging from the trunks, or moving slowly along their coarse-furred surface, was the many-shaped secondary growth in the inhis and tacapu categories, with plant or plant-animal characteristics. Gliding and hopping through the growth, fluttering about it, were small specimens of the animal population.

Nile's eyes and nostrils took it all in with only superficial conscious responses. A definite conscious reaction would come if she encountered something she didn't know or knew might harm her—or if she detected any trace of the in-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

truders who had forced her down from the sky. Listening was a waste of effort; the booming winds drowned minor sounds. She started up the ascending curve of the trunk by which she had climbed from the sea. Presently it branched, then branched again. Now the floatwood's great oblong leaves began to appear among the other growth, shifting green curtains which closed vision down to the next few dozen steps ahead. It was more to her advantage than not. In the constant stirring, her lean body, tanned almost to the tint of the floatwood branches, would be next to impossible to detect if hostile watchers were about.

She was nearly four hundred feet above the ocean before sunlight began to play through the forest in wavering flashes, filtered through the canopy above. By then Nile was moving along an interlaced network of lesser branches. She knew she was somewhat above Ticos' dwelling and had been watching for its camouflaged outlines in the vegetation below. It was a sizable structure, but anyone who didn't know it was there might stare at it for minutes and not realize what he saw. It had been built of the materials growing about it and blended into them.

A great wet mass of fernlike stuff, sadly bent and tattered by the typhoons, caught at Nile's memory. The hideout should be thirty feet below, off to the left.

She reached the soggy greenery, clambered through, found a spot where she could look down. Nothing but more waving growth beneath her. She jumped over to a sloping trunk, caught at it with flexing grip sandals and hands, moved along to a horizontally jutting branch and stepped out on it to look around the trunk.

A broad spear of sunlight blazed past her, directly into the concealed entrance of the hideout. A naked man sat cross-legged in the entrance, staring up, mouth stretched wide as if in a frozen shriek of laughter.

Nile's next awareness—at the moment it seemed a simultaneous one—was of the UW in her hand, stubby muzzle pointed down at the grotesquely distended mouth of the figure.

The figure didn't move. For seconds then, neither did she. The eyes seemed fixed on her and her skin crawled with something very close to superstitious terror. The sunlight winked out suddenly. The forest shook and groaned in renewed surges of wind.

She was looking at a dead man, her mind told her belatedly. Not Ticos; he didn't show the slightest resemblance to Ticos . . . but what had frozen this unknown dead man here in that position, head twisted back, facial muscles distorted into an expression of grisly mirth? Her eyes began to shift



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

about, returning every few seconds to the seated shape, as if she expected it to gain sudden life and come leaping up at her. The forest boomed, danced, rustled and snapped in the wind. She saw and heard nothing else. The figure remained unmoving. It had been there unmoving, she decided, for a considerable time—days, at least. It was streaked with dirt, as if rain had run down on it and it had dried while the storm whipped forest debris about it, and rain presently washed it again.

She stepped back behind the trunk, moved down along it. A minute later her left hand carefully parted the cluster of plants encircling the platform to let her look beyond the man-shape into the structure. The entrance door was gone. Not torn away by storm violence. Removed deliberately. The entrance had been widened, cut back on either side.

The interior was dim, but part of the wall lighting was on, and after a moment she could see enough. Except for a few tables and wall shelves, the place seemed to have been stripped. The partitions were gone; only the thick outer framework remained. But the structure wasn't empty. There might be between twenty and thirty of them inside. They crouched on hands and knees, squatted, lay about. Their rigid immobility said there was no more life in them than in the figure on the platform. Nile moved slowly forward, gun out before her.

She paused by the seated man in the entrance, prodded his shoulder with a finger. The skin was cool, gummy; the flesh beneath it unyielding as lead. She started past, checked again, stomach contracting. A wide gash laid open the figure's back. It appeared to have been gutted completely through the gash. She stared a moment, went inside.

The others weren't very different. Ticos wasn't one of them. Dead eyes stared at Nile as she moved among the bodies. Dead mouths snarled, pleaded, grinned. All were savagely mutilated in one way or another. A few had been women. One of the women had the Blue Guul symbol of the Sotira sleds etched on her forehead—a good luck charm. Several wall sections were still covered with Ticos Cay's scribbled work notations and sketches. Nothing else of his seemed here. Nothing else seemed to be here at all except what the wet winds had swept in through the entrance.

Then her eyes checked on something the wind hadn't blown in. It sat in the shadows on a wall shelf to one side of what had been the main room. Puzzled, she went slowly over to it.

It looked like a featureless black cloth figure, a hooded lumpy little doll, less than fifteen inches high. It had been placed on a crumpled



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

dark cloth spread along the shelf. As Nile came up, she saw that the hood and cloak were coverings. There was something beneath them. She pushed the hood back with the UW's muzzle, looked at a wrinkled blackish unhuman face which might have been carved out of wood, with considerable skill. The bulging heavy-lidded eyes were closed. A narrow mouth slit was the only other feature. In its miniature ugliness it was impressive. It was as if a small demonic idol had been set up to preside over what had become of Ticos Cay's laboratory. Nile let the hood fall into place, started towards the entrance.

One more discovery then . . . she saw something stir in the dirt piled against one wall and moved the dirt aside with her foot. Three of Ticos' protohoms lay in a pile, mutilated and slashed almost beyond recognition, still moving. As cruelty it was meaningless; they had no awareness and no sensitivity to pain. But it fitted the pattern of grotesque ugliness here. The UW hissed quickly three times, taking their semblance of life from them.

There seemed no reason to stay longer. The structure held a feeling of nightmare, heavy, almost tangible. At moments it seemed difficult to breathe and her head would begin to swim. But she had a recurrent nagging feeling of missing something. She glanced about once more. The dead shapes were there in their frozen postures. The dark little idol dreamed above them on its littered shelf. No . . . nothing else but unanswered questions.

In a thicket a hundred yards from the structure entrance, where she could watch the stretch along which she had come, Nile tried turning over the questions. Her mind moved sluggishly at first, blurred by fear and surges of pity and sick anger. She had to keep forcing all that to the back of her awareness. What she'd seen didn't fit the overall pattern she'd assumed. A very different type of mentality seemed involved. A mentality which systematically tortured human minds and bodies, leaving the victims degraded in death and carefully preserving their degradation, as if that were a goal in itself.

It made no sense as yet. But the immediate situation hadn't changed. If Ticos had known about these intruders before they discovered his laboratory and converted it to the insanity in there, he might still be at large. He'd had a small boat with which he could have slipped away unnoticed to other sections of the island, or even to another island in the floatwood drift. He knew she'd be coming presently and would have tried to leave a message where she could find it, hoping she'd be able to escape capture in turn. Something to tell her what was going on, where he was.

A message where she could find it. Some place she'd associate natu-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

rally with Ticos. Nile shook her head. There were simply too many such places. She couldn't waste time checking them over at present. If Ticos was still in the island area, Sweeting might be able to pick up traces of him.

Her thoughts veered. The aircar. They'd have reached it by now, but door and engine keys were in the pouch at her belt. If they hadn't sunk the car or towed it away, they should still be busy around it. Watching them might tell her more about this group than she could get from Sweeting's reports. She set off quickly.

When she caught glimpses of the wind-whipped surface of the lagoon through the growth, she paused, calculating her position. The reed bed where she'd touched water should be on her right, not far away. She angled towards it, ran up a thick sloping branch stretching out above the water, turned and went on hands and knees along a lesser branch until she reached a point where sheafs of floatwood foliage overhung the lagoon. Here she straddled the branch, grasped two of the leaf stems, drew them cautiously apart and was looking down on the swirling reed tops two hundred feet below.

The area where she'd set down the car had been widened, the plants thrust aside and mashed down so that she could see a patch of open water. There were other indications that a surface craft had broken a way in from the lagoon. Nile saw nothing else, thought for a moment the car already had been destroyed or hauled off. But then she heard a series of clanging metallic sounds, partly muffled by the wind. Somebody was down there, perhaps engaged in forcing open the car's doors.

She waited, upper lip clamped between her teeth, heard no more. Then one end of the aircar edged into view, turning slowly as if it were being pushed about. A moment later all of it suddenly appeared in the open area—and on the canopy . . .

Nile's thoughts blurred in shock.

Parahuans.

Some seventy years ago they'd come out of space to launch almost simultaneous attacks against Nandy-Cline and a dozen other water worlds of the Hub. They'd done considerable damage, but in the end their forces were pulled back; and it was believed that by the time the Federation's warships finished hunting them through space, only insignificant remnants had survived to return to their undiscovered home worlds. It had been the last open attack by an alien civilization against a Federation planet—even planets as far out from the Hub's centers as Nandy-Cline.

And we became careless, Nile thought. We felt we were so big no one would dare come again . . .

With a kind of frozen fascina-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tion, she stared at the two bulky amphibious creatures squatting on the car, thickly muscled legs bent sharply beneath them. A swarm of reflections based on various old descriptions of Parahuans went through her mind. The bluish-gray torsos and powerful arms were enclosed by webbings of straps, holding tools and weapons. The bulging eyes on the big round heads were double-lensed, the lower sections used for underwater vision and lidded in air, as they now were. A vocal orifice was connected to a special air system above the eyes. The two below seemed to be gabbling at others outside her range of vision, though the wind drowned most of the sounds they made.

Well, they had dared come again . . . and they already must be in considerable number on the unsuspecting planet, establishing themselves in and under the floatwood islands in recent months. The little figure in the gutted laboratory, the smalll devil brooding vengefully over the mutilated husks of human bodies, was made in their image.

It changed her immediate plans. In this storm-swept mutileveled mountain of dense vegetation she'd felt reasonably safe from human searchers. But she would take no chances with the aliens until she knew their capabilities. She shifted back on the branch, then halted watchfully. In the water of the lagoon beyond the reeds something was moving. Nile couldn't make out details, but it was a very large creature, dirty white in color. As she stared, it sank slowly below the surface and was gone.

She scrambled back along the branch under cover of the leaves, got to her feet as soon as she reached more solid support, and retreated hurriedly into the forest. In their first campaign the Parahuans had brought a formidable creature along with them which took part effectively in the fighting. It was animalic in behavior, though there was some evidence that it was a gigantic adaptation of the Parahuan life form. Reportedly it had sharp senses, was equally agile on land and in water, and very difficult to stop with ordinary weapons.

What she'd seen out in the lagoon just now was one of those creatures—a Parahuan tarm.

Eyes shifting quickly about as she moved on, she paused here and there for an instant. Her knife reached out, slashed stem, seed pod, blossom, fleshy leaf, chunky tentacle from one or another familiar tacapu or plant form. They bled tinted dust, tinted sap, quickly turning to streaks and blots of green, shadow blue, cinnamon, chocolate brown, gray and white on Nile's body, arms, legs, face, hair, equipment. Breaking outline, blending form into background . . . a trick used in stalking floatwood species wary and keen-sighted enough to avoid undisguised human hunters.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

It might not be sufficient diguise now. Humans had a variety of life detection instruments. No doubt, Parahuans had them. For many such devices, one human being in the floatwood became simply one life form blurred among many life forms. But the distinctive human scent remained, and sharp senses read it as well as instruments. She could take care of that presently. To do it, she'd have to get back to the area of Ticos' laboratory. . . .

Her mind halted a moment. Ticos' laboratory! Nile made a sound of muted fury. If he'd left a clue for her anywhere, given any time to do it, he'd left it there! She'd felt she was overlooking something. She'd hesitated. If she hadn't been in partial shock because of what she'd come upon—

She returned along the route she'd followed from the laboratory to the lagoon, staying some thirty feet above what should be her actual trail.

And presently: a special minor area of agitation in the mass of wind-shaken growth below and ahead. A shimmer of blue-gray.

Nile sank smoothly to the floatwood branch she was crossing, flattened herself against it, then carefully shifted position enough to let her peer down.

The Parahuan was coming out of a thicket beneath her, following another branch. He crept along on all fours. It looked awkward, but his motion was fairly rapid and showed no uncertainty. He came to a parallel bough, paused, took a short hop over to it, went on. He seemed indifferent to the fact that he was several hundred feet above the sea. So they were capable climbers. As he reached a curtain of secondary growth, another Parahuan appeared, trailing the leader by twenty-five feet, and vanished behind him. Nile checked two minutes off on her watch. No more aliens had showed up—the pair seemed to be working alone. She went up twenty feet, hurried back in the direction of the lagoon.

It had startled her that they'd been able to pick up her trail so promptly in this vast green warren. The odds seemed all against that, but there was no question that they were following it. Both carried guns, heavy-looking thick-barreled devices fastened to the web of straps about their trunks. The one in the lead had a curved box attached to the top of his head, a number of tubes projecting from its sides and twisting about in the air with a suggestion of sentient searching. The second Parahuan carried a much smaller instrument directly above the vocal slit in the upper part of his head. That probably was a communicator.

Nile dropped back down, found a place to wait. There'd been a practical detail in the information contained in the old war records—the lower half of a Parahuan's head



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

was the best point to aim at to put them out of action quickly. Second choice was the lower torso.

The leading Parahuan came into sight again on a lower branch, edging out of a wind-tossed cluster of great leaves she'd been watching. He paused there, staring about and ahead. Nile held her breath, wondering what signals he was getting from his tracking instrument, until he started forward along the branch. She let him pass below. Parahuan Number Two showed up punctually in turn. As he came within twenty-five feet, Nile sighted along the UW, squeezed the trigger carefully. The big body turned sideways, rolled off the branch without a sound.

Nile twisted left, aimed again. The leader had noticed nothing. Moments later he, too, plunged down into the waving vegetation and was gone.

The buti was an unremarkable shrublike growth in the inhis category, with lacy fronds and thick woody stems, living as a semiparasite on the floatwood. Its stems were hollow, and the creamy sap they oozed when cut had the quality of nullifying a wide variety of smells, though it had no pronounced odor of its own. Specifically, in this case, it nullified the scents of a human body. When floatwood was hunted over enough to make some of its harvestible life shy of human visitors, anointing oneself with buti sap, if it was obtainable, was a common move among experienced collectors.

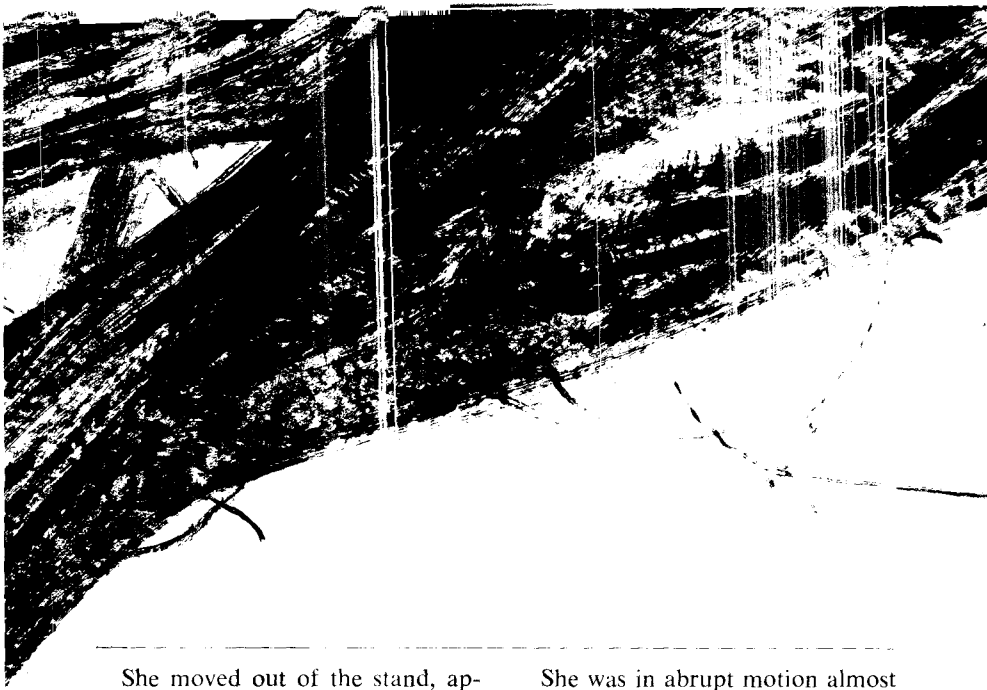
The buti stand Nile had remembered from earlier visits was not much more than a hundred yards from Ticos' laboratory, and somewhat above it. She let herself drop thirty feet into the center of the shrubs against the antigrav effect of the belt, then spent several minutes meticulously adding a coating of the sap to her color camouflage and to the various articles of her equipment. Her nerves were on edge; she did not like at all being in the immediate vicinity of the laboratory. They might know she'd been here before—the laboratory in fact was likely to be the point where their tracking instrument had picked up the fresh human trail and started them in pursuit. There might be a swarm of the creatures not far away at the moment.

But the job with the buti couldn't be hurried too much. Nile finished it at last, cut off a two-foot section of the stem, seared its ends shut with the UW and added it to the items already attached to her climb-belt. Salt water dissolved the sap; and she should have swimming to do presently. Her scent trail ended now thirty feet above the buti shrubs. If they followed it that far and could not pick it up again, they might conclude she'd lost her footing and fallen through the forest into the ocean. At any rate, she'd become as nearly indectable as she could be.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO OUP ORG
ELECTRONIC REPRODUCTION PROHIBITED

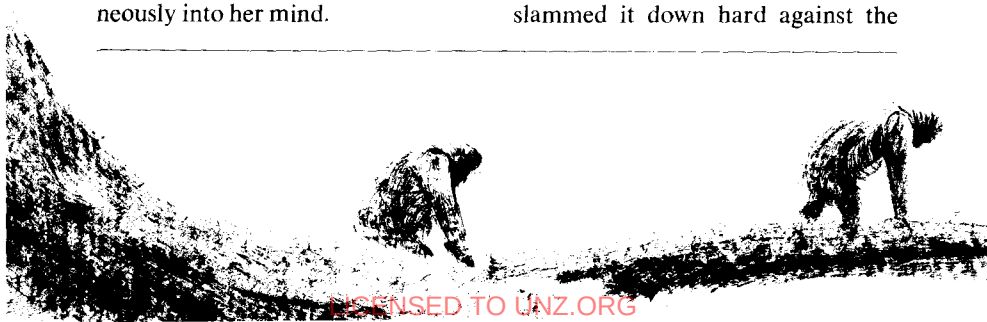


She moved out of the stand, approached the laboratory with quick caution, conscious of a growing urgency to be out of this area. When she reached the platform, nothing seemed changed. The interior looked undisturbed; she could make out no marks of webbed Parahuan feet on the floor.

She came in quietly, gun held out before her, eyes shifting about. The rigid human exhibits watched her walk past towards Ticos' former work area. As she went by the tiny hooded idol, dreaming its dreams on the shelf, she glanced over at it. Two thoughts flashed simultaneously into her mind.

She was in abrupt motion almost before she became fully conscious of them—spinning around towards the shelf, dropping the gun. An instant later she had whipped up both ends of the leathery cloth on which the Parahuan mannikin sat, brought them together with a twist over the hooded head, gripped them hard in both hands and swept the bundled figure from the shelf.

By then there was a great deal of activity inside the cloth, a furious jerking and twisting, carried out with such amazing vigor that it nearly tore the cloth from her hands. But she swung the bundle up, slammed it down hard against the



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

floor, brought it up, slammed it down again. The bundle stopped jerking. Nile scooped up her gun, spilled the inert thing inside the cloth out on the floor. She stood gasping and shaking in fright and hate, staring down at it.

It had shifted its position on the shelf since she'd seen it last. Not much; by perhaps three or four inches. As her mind recorded the fact, memory brought up another datum from the old records. Some rescued human prisoners reported that the Parahuan leaders were dwarfed creatures by comparison with their fellows.

She recalled no mention of their being dwarfed to this improbable extent. But if she hadn't killed it, she might have a useful captive.

She dropped to her knees, pulled off the hood. Something attached to the thing's chest—a flat dark disk with studs in it, metallic or plastic. Nile gripped the disk in her fingers, tugged, then slid the point of her knife in sideways between the device and the Parahuan's body, pried upward. There was a momentary resistance. Then four prongs in the underside of the instrument pulled suckingly out of the wrinkled skin. A communicator? She turned it over quickly in her hand. That was how the first trackers had known how to start on her trail. And it probably had been used again as she appeared in the entrance a minute ago, to call other searchers back to the laboratory—

She opened the kit pouch with flying fingers. There was stuff in there ordinarily used to secure some vigorously active floatwood specimen which was wanted alive—and it should hold this specimen. She pulled out flat strips of tanglecord, taped the Parahuan's small—wiry arms to the dumpy body, taped the webbed feet together, sealed the narrow vocal orifice above the eyes with a section of cord. She turned the midget quickly around, looking it over for other trick devices. Nothing but a few dozen brightly colored small jewels set in the wrinkled top of the head in what might be a symbol of rank or a decorative pattern. She bundled the captive back into the cloth, knotted the ends of the cloth together, spent another dragging minute nicking the buti stem and giving the bundle the sap treatment.

She left the bundle on the floor, went over to the section of Ticos' work area and found his message to her almost at once, scrawled blandly and openly among the many notations that decorated the wall:

*Nile note. The sestran stand should be carefully studied.*

Now out of here—fast!

She nearly, very nearly, was not fast enough. She pitched the communicator, wrapped in the midget's cloak, off the laboratory platform as she came out on it. The packaged midget himself rode her



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

back, secured by a tanglecord harness. It was a minor nuisance; in the antigrav field his weight was nothing. Less than a hundred yards from the laboratory, she ducked quickly into cover.

It was a good dense thicket. From where she was crouched she could see only a limited section of the forest above. She watched that, waited for indications of anything approaching the thicket itself. A group of three Parahuans moved presently through the area above the thicket—then two more.

After that, Parahuans were simply around for a while. It was a large search party, congregating now on the laboratory. Nile kept on the move herself as much as she could, edging in the opposite direction. Most of them were climbing up from below, so she couldn't simply drop down through the forest to get out of their way. They came close enough so that she heard their voices for the first time: an oddly mellow modulated hooting, interspersed with hissing sounds. Two swarmed up the line of a grapple gun a dozen feet from her. Then she saw none for a while. By that time she had worked the green blanket of an intermediate forest canopy between herself and the main body of the searchers. She decided she was clear of them and began to climb more quickly.

Something crashed down from the upper levels ahead—a great broken branch, accompanied by assorted litter torn loose in its descent. Nile looked up, and her mind went bright with terror. She took one slow step to the side, thumbed the antigrav up high. Nothing beneath her feet now . . . she was falling limply, bonelessly, turning over slowly, towards the shelter of the canopy below. No human motions. No voluntary motions of any kind. Be a leaf, an undefinably colored uninteresting small dead dropping part of the forest. She reached the canopy, settled through it, went drifting down until she touched a solid branch and motion stopped. She huddled there, clutching the growth on either side of her. Fear still stormed along her nerves.

The tarm had been like the tip of a fog bank swirling into sight around a floatwood bole above her. It was rushing by overhead as she dropped, so close that it seemed almost impossible she'd remained unnoticed—close enough, she thought, for one of its pale tendrils to have reached down and plucked her from the air. But it had moved on. She listened to the receding sounds of its passage through the forest long enough to make sure it wasn't returning, then set off hastily, still shaking. She wasn't nearly as far from the laboratory as she should be before the search fanned out again. They must have discovered by now that their midget was missing. Nile told herself they were least likely to come back to an area already hunted over by the tarm.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

She might have been right. Ten minutes passed without further signs of her pursuers, and her nerves steadied again. If they'd shifted to the eastern areas of the forest, it could keep them futilely occupied until nightfall. Flashes of fading sunlight began to reach her. She wasn't far now from the forest roof on the seaward side and should not be far from the sestran stand to which Ticos Cay's note had directed her. Eight months before, they'd brought sestran shoots from another part of the island and established them here for his studies. He'd known his use of the term would tell her exactly where to look.

She discovered the stand presently—and discovered also that chaquoteels had built a colony nest above it since she'd been here last. The tiny kesters greeted her with a storm of furious whistlings. Nile ducked quickly into the sestran, but not quickly enough. The chaquoteels were on her in a darting rainbow swarm, and her back smarted from dozens of jabs before they decided she'd been sufficiently routed and left her alone in the vegetation. Then the racket quieted quickly again.

Her search was a short one; Ticos had done what she'd expected. The tiny script recorder was in weatherproof sealing, taped to the side of one of the thickest sestran stems. Nile freed herself of her prisoner and laid the bundle down where she could watch it. The midget hadn't stirred yet, but that didn't mean he wasn't awake.

She considered briefly. There was cover all about. If Parahuans, or the tarm, showed up, she could fade away in any direction without stepping into the open. And with a few hundred bad-tempered chaquoteels scattered around the vicinity, she couldn't be taken by surprise.

Yes—as good a place as any to find out what Ticos had to tell her.

Nile settled down, fitted the recorder to her eye, and started it.

## V

Long before she put the recorder down for the last time, Nile had decided that Ticos Cay ranked among the great liars of history.

He was still alive. At least he'd been alive less than a week ago when he left the last of the four recorder disks which contained his report here for her.

She sat still, sorting over the information.

Some seventy years ago the Parahuan leadership had been smarting in defeat and trying to understand how defeat could have been possible. In their minds they were the race which had achieved perfection at all levels, including individual immortality for those with the greatness to attain it. They were the Everliving. None could match them. The water worlds of the gal-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

axy which met their requirements were destined to be their own.

Since they first moved out from Porad Anz, their home world, the Sacred Sea, they had encountered nothing to contradict that assumption.

But now an inferior land dweller which was in possession of a number of such worlds had flung back the Parahuan forces sent to occupy them. The experience stunned the Everliving. It affronted logic.

Before the attack they had made what seemed a sufficiently comprehensive study of the Federation of the Hub. This human civilization was huge. But it was a heterogeneous, loosely organized, loosely governed mass of individuals quite normally in serious conflict among themselves. The analysis of captured humans confirmed the picture.

That muddled, erratic, emotionally swayed creature had routed the disciplined Parahuan forces. Something was wrong—it simply shouldn't have happened.

What had been overlooked?

They went back to studying the enemy in every way they could. The creature was blocking the orderly progression of the goals of Porad Anz. That was intolerable. The secret of its ability to do it must be found—and then means devised to destroy the ability.

Presently, in the creature's relatively recent history, a clue was discovered.

It developed into the Tuvela Theory . . .

Nile made a snorting, incredulous sound. Not much more than two centuries ago—not many decades before Ticos Cay was born—the Hub still had been one of the bloodiest human battlegrounds of all time. It was the tail end of the War Centuries. A thousand governments were forming and breaking interstellar alliances, aiming for control of the central clusters or struggling to keep from being overwhelmed.

The Tuvelas belonged in the later part of that pre-Federation period. They were a sophisticated equivalent of ancient warlords. Some believed they arose from well-defined genetic strains at a high genius level. Legends clustered about their activities. But the fact was that the records of those muddled times were contradictory and thoroughly unreliable. In any event, the Tuvelas were long gone.

The Parahuan Palachs, searching for an explanation of their own defeat, decided they weren't long gone. The mysterious superhuman Tuvelas not only were still around—they were now the true secret rulers of the Federation of the Hub. They had organized and guided the operations which resulted in the defeat of the Parahuan expeditionary forces.

That was the Tuvela Theory.

The Everliving, or at least a ma-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

jority of them, didn't intend to let the matter rest there. They now had a rationalization of the past disaster, and it restored to some extent their shattered pride. To have been bested by a foe of abnormal ability whose existence hadn't been suspected, that could be accepted. The human species as such was inferior to Porad Anz. Its apparent strength lay in the fact that its vast masses were directed and controlled by these freakish monsters.

To even the score with the Tuvelas, to bring them down and destroy them, became an abiding obsession with the Everliving—or again, at least with a majority of them. Some evidently felt from the beginning that the Tuvelas might be such dangerous opponents that it would be better not to come into conflict with them a second time. The view never became popular, but it was agreed that all reasonable precautions should be taken to avoid another debacle. The majority opinion remained that since a Parahuan Great Palach was the ultimate development of life, the human Tuvela could not possibly be his superior. The advantage of the Tuvelas had been solely that the Everliving hadn't known they were there—and naturally hadn't considered such a remote possibility in preparing the first attack.

Out of this situation grew the Great Plan, aimed at the ultimate destruction of the Hub's rulers and of the Hub as a civilization. The conflicting opinions were represented by the groups known as the Voice of Action and the Voice of Caution. Between these opposed factions, the uncommitted ranks of the Everliving maintained the wisely flexible balance.

The Voice of Caution had determinedly dragged its heels from the start and continued to drag them for seventy years. In spite of such resistance, the Great Plan gradually matured. The Parahuans found allies—the Hub had more enemies with long memories among the stars than it might know. But they were wary enemies. If the Parahuans could take and hold a number of Federation worlds and engage a major portion of the Federation's forces . . . *then* a score of alien civilizations would attack other points in the Hub simultaneously, splitting and weakening the human defenses until they were shattered. But only if the Parahuans succeeded.

The Voice of Action argued that this was good enough. The Voice of Caution argued that it wasn't. In the balance between them an initial test was decreed—a potential invasion force was maneuvered with careful secrecy into the seas of Nandy-Cline.

This force was regarded as expendable. On the face of it, it should be able to take Nandy-Cline with relative ease in a coordinated surprise attack. Careful study had established the fact beyond a doubt.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

But its primary purpose was to flush the Tuvelas to view and test their alertness and ability. If it should be established that they were indeed entities against whom the Everliving were outmatched—if, for example, the invasion force, in spite of its apparent superiority, again was destroyed or obliged to retreat—the most disconcerting aspects of the Tuvela Theory must be considered proved. Then the Great Plan would be canceled and Porad Anz would resign itself to a future of circumspect obscurity.

But if Nandy-Cline fell as scheduled, the Tuvelas could be dealt with, now that their influence on humanity was known; and the Voice of Action would receive full authority to proceed with the further operations designed to end in the destruction of the Hub.

In the course of preparing for the attack on the planet, the hidden invasion force ran head-on into Dr. Ticos Cay . . .

Ticos had been tracked to his laboratory and taken by surprise. A study of the lab's equipment told his captors that here was a human with advanced scientific knowledge who might have useful information. He was treated with care, questioned at length. Many Palachs had acquired a faultless command of translingue as an aid to their understanding of the enemy. They interrogated Ticos under drugs and with the application of calculated pain. His acquired level of mental control enabled him to withstand such pressures; and the Palachs considered this to be of great interest. No other human prisoner had shown a similar ability.

They were further intrigued to discover he had been working, among other things, at the development of longevity drugs. All reports indicated that humans had never attained an unlimited life span; the lack of an overall immortality program was in fact the most definite indication that the Hub's civilization, in spite of its accomplishments in other fields, stood basically at a low level. Among themselves, the science of immortality in all its branches was held sacred, its study restricted to Palachs. Evidently it was at this point they decided Ticos might belong to a class of humanity which knew at least something about the Tuvelas. Earlier prisoners had been totally ignorant even of the existence of their anonymous rulers.

Ticos was puzzled at first by the new direction the interrogations were taking. He framed his replies very carefully in a manner designed to draw more revealing questions. Presently his concept of the Palachs' Tuvela Theory grew clear—and now he was able to suggest possibilities which seemed to confirm the worst fears of his inquisitors. He could claim convincingly that the specific information he had was quite limited, but the implications in what he said matched to a disturb-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ing degree the blackest calculations made concerning the nature of Tuvelas. The mass of the Everliving connected with the expeditionary force found their faith in themselves again shaken. Endless bitter debates were unleashed between the opposed groups, while the balance, temporarily at least, shifted towards the views of the Voice of Caution. The invasion was not actually called off, but all immediate attack plans were stalled for the time being.

Ticos meanwhile had been in an anxious quandary of his own. Nile's next scheduled visit was some weeks away; but she was bound to come then, and that he would have been able to persuade the Palachs to abandon the planet before she arrived seemed hardly possible. If he did nothing, she either would be killed out of hand as she came down from the air or captured and put to death in some very unpleasant manner. The Parahuans were not at all gentle with ordinary prisoners. As far as he knew, he was the only one picked up on Nandy-Cline who had lived more than a few days in their hands.

So he'd turned Nile into a Tuvela. It made one thing certain: the Palachs wouldn't kill her while they saw a chance of taking her alive—and knowing Nile as he did he felt that might very well give her an opportunity to escape into the forests. Parahuan scientists were studying the results of his longevity experiments; and he was allowed to go about the floatwood under guard at regular intervals to collect the materials he wanted. On such occasions he would deposit the significant information he had gathered where she should find it. After reading this report, she should do what she could to get away from the island and alert the planet. However, if she was captured, they might still be able to maintain the Tuvela bluff together and bring about a withdrawal of the alien forces. Success was questionable; but it was the best course he could suggest . . .

Nile inhaled shakily, blinking at the knotted cloth containing a Parahuan Palach. A *Great* Palach, she corrected herself. She'd better have her information well memorized in case events made it necessary to attempt to play the role of Tuvela Ticos had bestowed on her. Going by the descriptions he'd given of his principal interrogators, she thought she could even call this particular Great Palach by name.

She pursed her lips, thinking it over. She already had plans for escaping from the island presently, with Danrich Parrol's help. But the plans didn't make provision as yet for getting Ticos out, and she didn't intend to leave without him.

Besides, the general situation evidently now had become one which could take an unpredictable turn at any time. The Everliving, already overwrought as a result of Ticos' machinations, had tipped their hand in trying to take her alive and failing



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

to do it. If they suspected she could get away from the island again and warn Nandy-Cline, it might stampede them into launching the overall attack immediately before they lost the advantage of surprise. At best that would cost a great many human lives.

Lives that would be saved if the aliens could be talked into withdrawing.

Nile's reflections checked there a moment. She didn't like the line they were taking—but the line was an inevitable one. As things had worked out, the Palachs had reason to believe that in her they were dealing with a genuine Tuvela. If Ticos had come close to persuading them to retreat from the planet, a genuine Tuvela could finish the job—

But that meant putting herself voluntarily in the power of those creatures. And the thought was enough to dry her mouth.

A chaquoteel whistled a dozen feet away, and Nile started violently, then cursed her jittering nerves. It hadn't been an alarm call. Nothing of significance to the chaquoteels, and therefore to her, had come near the sestran stand since she'd been sitting here.

She looked at the bundled Great Palach again. He was awake. There'd been occasional cautious stirrings under the cloth. One question was simply whether she could play the part of a Tuvela-Guardian well enough to keep the aliens deceived. The midget in there was a highly aggressive representative of the Voice of Action. If she could sell *him* the idea that Porad Anz was doomed if it persisted in challenging the Tuvelas, there was a good chance she could bluff the Everliving as a whole.

Why not find out?

She'd have to believe it herself first. Quit being Nile Etland and *be* a Tuvela—the more outrageously, the better. No small lies—big ones. Keep the creature surprised.

She moistened her lips, fished the tanglecord's release key from her pouch, placed her gun on the chunk of floatwood supporting the thicket. The tanglecord strips securing the cloth about the Parahuan came away at the touch of the key. She dropped them in the pouch, unknotted the cloth and drew it cautiously from the captive.

The atmosphere sections of the Parahuan's eyes were open. They watched her steadily. The tanglecord clamped about his arms and feet was tight and in place. Nile pulled the strip away from the vocal slit, set him upright against a clump of sestran, backed away eight or nine feet, and sat down, holding the gun loosely before her. She studied the alien for some seconds.

He didn't look too formidable, but Ticos' caution against underestimating Palachs of any grade probably was well founded. Their approach to immortality involved a progressive induced metamorphosis.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The muscular structure became condensed and acquired extreme efficiency. Most of the thinking apparatus was buried inside the chunky torso; presumably it did not undergo physiological changes. Reduced to essentials, Ticos had said. Very well, she'd watch this Great Palach—

What did he see in her? A Tuvela? Nile had a mental picture of herself—lean, next to naked, smeared with colorful plant sap. Hardly the most impressive image. But it couldn't be helped. She was a Guardian of the Federation of the Hub, a Tuvela. To him, she was gromgorru. A mysterious, powerful being, with information sources beyond her captive's knowledge. The last, at any rate, she had.

She said, "I believe I am addressing the Great Palach Koll."

The mannikin stared a long moment. At last the vocal slit moved. "And *I* believe," a voice like golden velvet told her, "that I address a Hulon named Etland."

Hulon—Parahuan term signifying low-grade human. There'd been no suggestion of alien inflection in the words. They *had* studied humanity in patient detail.

"You have another name for us," the Tuvela said indifferently. "Call me Hulon if you wish. Where are you holding Dr. Cay at present?"

"Not far from here. What is your interest in Dr. Cay?"

"Our interest in Dr. Cay," Nile said, "is less than it was. He has not performed well in this test."

"Test?" Koll's voice had thinned. Nile regarded him a moment.

"Surely you must have wondered from time to time," she remarked, "why no one came here to inspect Dr. Cay's activities. Yes, a test. Not that it's your concern, Great Palach, but Dr. Cay was a candidate for the true-life. I'm not sure he will remain one. When we saw you had discovered him, we waited to observe how capably he would handle this unexpected situation. I'm disappointed."

Koll's vocal slit opened and closed silently twice. The Tuvela scowled absently.

"However, I'm more than disappointed in the Everliving," she resumed. "If you didn't find Dr. Cay sufficiently persuasive, very moderate intelligence alone should have told you to be long gone from here . . . and glad to be away! Haven't you felt the snare this world represents waiting about you? Has the Sacred Sea grown senile instead of immortal?"

She shrugged. A Tuvela, after all, was not greatly interested in the limitations of Porad Anz.

"You'll be told to go now," she stated. "You've been butchering the ones you call Hulons a little too freely. That disgusts me. It seems you fear even the human shape so much you revert to your animal beginnings when you meet it. We don't choose to see our people wasted—and Dr. Cay has had time enough to demonstrate his present lack of satisfactory potential."



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Silence. Long silence. The sestran shrubs rustled. Wind roaring rose and ebbed in the distance. The air was darkening quickly. The wizened mannikin sat motionless, staring.

*Gromgorru,* Nile thought. It had been weighing on both sides. It should weigh heavily on the Parahuans now. A Tuvela was about, an invisible ghost in the floatwood. It had plucked the Great Palach Koll from his grisly command post. Bear down on those fears. Yes, it might very well work.

The velvet voice said suddenly, "I see and hear a creature lying in clever desperation to conceal its helplessness. you can't escape and you can't contact your kind. You did not come here to tell the Everliving they must leave. You're here because you were trapped."

Nile's lip curled. "The sken beam? If the technicians who examined my car understood what they saw, they must know I could have blocked such a device. And by the true-life, I believe I can play the hunting game against a mob of Oganoon and stupid animals! Great Palach Koll, Voice of Action—look around! Who is trapped here, and who is helpless?"

She leaned forward. "The stupidity of Porad Anz! It tampered with our worlds and was thrown out. All it learned was to look for allies before it tried to come back. No doubt you'd need allies—more than you can find. But you've already found too many to make the Great Plan possible! Even if we'd had no other methods of information, your secret was spread too far to remain a secret—"

She broke off. Koll was quivering. The vocal slit made spitting sounds.

"We'd been minded to spare you," the Tuvela began again. "But—"

"Guardian, be silent!" The voice was squeezed down to an angry whine. "Lies and tricks! The Everliving will not listen!"

The Tuvela laughed. "When I come to them with a Great Palach tied in a rag, dangling head down from my belt, they won't listen?"

Koll squealed—and became a blur of rubbery motion.

The long legs swung up, brought the fettered feet to his shoulder. Something projected in that instant from the shoulder, a half-inch jet of fire. It touched the tanglecord, and the tanglecord parted. The webbed toes of one foot gripped one of the jewels on Koll's head, pulled it free. The other leg was beneath him again; it bent, straightened; and he came towards Nile in a long one-legged hop, quick and balanced. The jewel-handled needle gripped in his foot leveled out.

Nile was in motion herself by then—dropping back, rolling sideways.

The needle spat a thread of pink radiance along her flank as she triggered the UW.

And that was that. The UW's



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

beam was hot, and Koll was in mid-jump, moving fast, as it caught him. His lumpy torso was very nearly cut in two.

Nile got up shakily, parted the sestran stems through which he had plunged, and looked down from the floatwood branch. Nothing but the waving, shadowy greenery of the vertical jungle below . . . and no point in hunting around for the body of the Great Palach down there. Ticos had neglected to mention that the thick Parahuan hide could be used to conceal an arsenal, but after seeing the communicator Koll carried grafted to himself, the possibility should have occurred to her.

Why had he attacked at that particular moment? She hadn't convinced him Porad Anz faced destruction unless the invading force withdrew—or else he had such a seething hatred for mankind that the fate of his own race was no longer of sufficient consideration. But apparently she *had* convinced him that a majority of the Palachs would accept what she said.

He should know, Nile thought. She'd lost her prisoner, but the Great Palach Koll dead, silenced, vanished, remained an impressive witness to the Tuvelas' capability and stern ruthlessness.

Let the Everliving stew in the situation a while. She'd give them indications presently that she was still around the island. That should check any impulse to launch a hasty military operation. Meanwhile she'd try to find out where Ticos was held, and prepare to carry out other plans. And now it was time to check with Sweeting and learn what her water scouting had revealed.

Nile dropped quietly down out of the sestran thicket to lower branches to avoid arousing the chaquoteels, and slipped away into the forest.

Back down at the water's edge, she looked out from a niche between two trunks at the neighboring island section. It was the largest of the five connected forests, a good half wider and longer and lifting at least a hundred yards farther into the air. From the car she'd seen thick clusters of a dark leafless growth rising higher still from a point near the forest's center, like slender flexible spear shafts whipping in the wind. Oilwood it was called. Weeks from now, when the island rode into the electric storm belts of the polar sea, the oilwood would draw lightning from the sky to let its combustible sheathing burn away and the ripened seeds beneath tumble down through the forest into the ocean.

Set ablaze deliberately tonight, it should provide a beacon to mark the island for Parrol and let him know where she was to be found.

The water between the two forests wasn't open. The submerged root system extended from one to the other; and on the roots grew



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the floatwood's aquatic symbiotes, pushing out from the central lagoon, though their ranks thinned as they approached the rush of the open sea. The Parahuans wouldn't have stopped hunting for her, and ambushes could easily be laid in that area. The sea south of the forest seemed to offer a safer crossing, now that evening darkened the sky and reduced surface visibility. The Meral Current carried weed beds—dense moving jungles which provided cover when needed.

Nile gave the otter caller on her wrist another turn. Sweeting should be here quickly. A receiver embedded in her skull transmitted the signals to her brain, and she homed in unerringly on the caller.

"Nile—"

"Over here, Sweeting!"

Sweeting came up out of the water twenty feet away, shook herself vigorously, rippled along the side of the floatwood bole and settled beside Nile.

"These are *new* bad guys!" she stated.

"Yes," said Nile. "New and bad. They don't belong on our world. What can you tell me about them?"

"Much," Sweeting assured her. "But found two Nile-friends. They tell you more."

"Two—" Nile broke off. In the surging sea five yards below, two dark whiskered heads had appeared on the surface, were looking up at her.

Wild otters.

## VI

The wild otters were a mated pair who'd selected the floatwood lagoon as their private preserve. The male would nearly match Spiff in size. The female was young, a smaller edition of Sweeting. They might be three or four generations away from domestication, but they used translingue as readily as Sweeting and much in her style. Interspersed were unfamiliar terms based on their independent oceanic existence, expressing matters for which no human words had been available. Usually Nile could make out their sense.

When the Parahuans arrived, the curious otters had made a game of studying the unfamiliar creatures and their gadgetry. There was a ship anchored to the island under the floor of the lagoon. It was considerably bigger than the average human submersible, chunky and heavily built—evidently a spaceship. Its lock was always open on the water. A second ship, a huge one, was also in the vicinity. Normally it stayed deep in the sea, but at times it had moved up almost to the island. Ticos had said that the headquarters ship of the Parahuan expedition seemed to be accompanying this floatwood drift.

Above sea level, the Parahuans had set up ten or twelve posts in the forest. Most of them were small, probably observation points or weapon emplacements. The ex-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ception was in the island section to which Nile wanted to go. "Big house," Sweeting said. It was set near the edge of the lagoon, extending well back into the floatwood and completely concealed by it. Perhaps a fifth of the structure was under water. Nile got the impression of something like a large blockhouse or fort, a few hundred yards beyond the rookery of the sea-havals. She wouldn't have selected the giant kesters as neighbors herself; the rookery was an evil-smelling and very noisy place. But alien senses might not find that disturbing.

The immediately important thing about the blockhouse was that it told her exactly where Ticos could be found, unless he'd been taken away after her arrival. He'd said his captors had shifted him and his equipment to such a structure and described its location.

The wild otters knew nothing of Ticos, but they did know about the tarm. When the Parahuans first came, there'd been two of the pale monsters in the lagoon from time to time. One of them evidently had been taken away again shortly afterwards. The description they gave of the other one matched that of the records. It was an aggressive beast which fed heavily on sea life and made occasional forays into upper forest levels.

"Have you had any trouble with it?" Nile asked.

The question seemed to surprise them. Then they gave her the silent otter laugh, jaws open.

"No trouble. Tarm's *slow!*" Sweeting's small kinswoman explained.

"Slow for you," Nile said. Hunting otters had their own notions about water speed. "Could I keep away from it in the water?"

They considered.

"Jets, heh?" the big male asked.

"Sadly, no jets!" Sweeting made a stroking motion with her forelegs, flipped hind feet up briefly. "Human swim . . ."

"Human swim! Tarm thing eat you!" the female told Nile decisively. "You hide, keep no-smell, Nile! How you do the no-smell? Trick, heh?"

"Uh-huh. A trick. But it won't work in the water."

The male grunted reflectively. "Tarm's back under big house. Might stay, might not." He addressed the female. "Best poison-kill it soon?"

Poison-killing, it developed, involved a contraption put together of drift weed materials—hollow reeds and thorns chewed to fit the hollows and smeared with exceedingly poisonous yellow bladder gum. Wild otter tribes had developed the device to bring down flying kesters for a change of diet. The female demonstrated, rolling over on her back, holding an imaginary holestick to her mouth and making a



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

popping noise through her lips. "Splash come kester!" They'd modified the technique to handle the occasional large predators who annoyed them too persistently—larger thorns, jammed directly through the hide into the body. Big sea animals didn't die as quickly as the fliers, but they died.

"Many thorns here," the male assured Nile. "Stick in ten, twenty, and the tarm no trouble."

She studied him thoughtfully. Sweeting could count . . . but these were wild otters. Attempts had been made to trace the original consignment of laboratory-grown cubs to its source. But the trail soon became hopelessly lost in the giant intricacies of Hub commerce; and no laboratory was found which would take responsibility for the development of a talking otter mutant. The cubs which had reached Nandy-Cline seemed to be the only members of the strain now in existence.

For all practical purposes then, this was a new species, and evidently it was less than fifty years old. In that time it had progressed to the point of inventing workable dart blowguns and poisoned daggers. It might have an interesting future. Nile thought she knew the yellow bladder gum to which they referred. It contained a very fast acting nerve poison. What effect it would have on a creature with the tarm's metabolism couldn't be predicted, but the idea seemed worth trying.

She asked further questions, gathered they'd seen the tarm motionless under the blockhouse only minutes before Sweeting got the first caller signal. It was the creature's usual station as water guard of the area. Evidently it had been withdrawn from the hunt for the Tuvela. Groups of Parahuans were moving about in the lagoon, but there was no indication they were deployed in specific search patterns.

"Waddle-feet got jets," remarked the male.

"Slow jets," said the female reassuringly. "No trouble!"

But armed divers in any kind of jet rigs could be trouble in open water. Nile shrugged mentally. She could risk the crossing. She nodded at the dark outlines of the distant forest section.

"I've got to go over there," she said. "Sweeting will come along. The waddle-feet have guns and are looking for me. You want to come, too?"

They gave her the silent laugh again, curved white teeth gleaming in the dusk.

"Nile-friends," stated the male. "We'll come. Fun, heh? What we do, Nile? Kill the waddle-feet?"

"If we run into any of them," said Nile, "we kill the waddle-feet fast—"

TO BE CONCLUDED



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

# The Powers of Observation

*By Harry Harrison*



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

*The Soviet approach in technology*
*tends to be rather heavy-handed, massive—*
*the brute-power approach.*
*Perhaps not neat and sophisticated—but*
*it can produce a dangerous unit!*

*Illustrated by Leo Summers*

It's just a matter of native ability. I've had the same training as a lot of other guys, and if I remember things better, or can jump faster, than most of them, maybe that's the reason why I'm out here in no-man's-land where East brushes West and why they're behind desks in Washington.

One of the first things I was ever taught by the Department was to look out for the unusual. I whispered a soft word of thanks to my instructors as I watched this big blond Apollo type walk down the beach.

His feet sank into the sand!

Yes they did, and don't go telling me that that doesn't mean anything. The sand on the Makarska beach is like the sand on any other beach on the Yugoslavian coast, firm and compact. You can make footsteps in it—but not *that* deep.

All right, go ahead and laugh if you want to, but don't forget what I told you about my training, so just for the moment take my word about this. These footprints were unusual. I was sitting up and looking out to sea when he went by, and I didn't move my head to look at him. But, since I was wearing sunglasses, I followed him with my eyes, head dead center all the time. He was an absolutely normal guy; blond, about six foot, wearing blue nylon bathing trunks and sporting an appendectomy scar and a scowl. You see a million like him on every beach in the world every summer. But not with those footprints.

Look, don't laugh, I asked you not to. I'll explain in a second. I let him walk on by and turn into the hotel and while he was doing it I was standing up and as soon as he was out of sight I was walking back the way he had come, towards this old woman who was selling *raznici* from a little stall. Sure I could have done it simpler, I was almost certain at the time that I wasn't under observation—but that's the point. I



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

could have been. Unless people know better, if you act innocent you are innocent. Act innocent all the time and et cetera all the time. I went and had some *raznici*, my fourth portion for the day. Not that I like the things, but the stall made a good cover, an excuse for random action.

*"Jedan,"* I said, and held up one finger in case my American accent obscured my tiny command of Serbo-Croatian. She bobbed her head and pulled a wood splint off the bed of charcoal and used her big carving knife to push the pieces of roasted meat from the splint onto the plate with the raw onion. Not a very complicated dish, but you get used to it after a while. To all appearances I was watching her carefully and digging out my money, but all I was really interested in were those footprints. I could see twelve of them from where I was standing, twelve that I was completely certain of, and while the food was being slowly dished out and the battered aluminum dinar coins counted two of them were obliterated by other bathers. I did a quick estimate of the elapsed time and footprints destroyed and came up with an extrapolated life of six minutes for the remaining footsteps. Or three minutes with a one hundred percent safety margin which is the way I like to operate when I can. Good enough. I took my change, chewed the last gristly bit, and strolled back down the beach counting the coins.

Was it chance my course paralleled the remaining three footprints? Was it chance I walked at the same speed as the blond stranger? Was it chance that built the atom bomb?

My right foot came down in line with—and a few inches away from—a right footprint, and as my foot came up I dropped the coins. It took me exactly 3.8 seconds to pick up the coins, and while picking them up I put my index finger into the blond man's heelprint and into my own. That's all. It was a risk to take, if anyone were watching, but calculated risks are part of this business.

I didn't smile and I didn't alter my walking pace, I just jiggled my change and went back and sat down on my towel again.

That was outside. Inside it was Mardi Gras, Fourth of July, rockets and cherry bombs and ticker tape from the windows.

It was childishly simple. I'm five ten and weigh one hundred eighty and I hit my foot into the sand in the same place and at the same speed and in the same way the blond had done. I could be off in my figure for the compressibility of the sand, but only by a few percent, and I assumed it was displaced at a predictable rate on a sine curve, and I wasn't off at all in my measurement of the depth of the two impressions so, plus or minus five percent for error, that six foot tall joker weighed in the neighborhood



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

of four hundred and twelve pounds.

Jackpot!

Time for action. And thought. I could do both at the same time. He had gone into the hotel, I would go into the hotel. The Jadran was big, new and international and almost everyone on this chunk of beach was staying there. As I picked up my towel and trudged slowly towards it I put the brain box into gear and thought of the next step. Communication and report, the answer came back instantly. The Department would be very interested in what I had discovered, and once I had relieved myself of the information I would be a free agent again and could look into the matter further. It should not be hard to find the heavyweight blond if he were registered at the hotel.

After the hot sunlight the lobby was dim, and apparently empty except for a fat German couple who were either asleep or dead in the overstuffed chairs. As I passed I looked into the bar and it was empty too, except for the bartender, Petar, who was polishing glasses listlessly. I turned in without breaking step, as though I had been headed here all the time and had not just decided at that instant to go in. The opportunity was too good to miss since Petar was my eyes and ears in this hotel—and well paid for the service.

*"Buon giorno,"* I said. *"Guten Tag,"* he sighed back. Petar comes from the island of Cres which belonged to the Austrians until 1918 and the Italians until 1945. He grew up with both languages as well as the native Serbo-Croatian. With this background he had picked up English and a little French and was in great demand as a bartender in the coastal hotels with their international clientele. He was also underpaid and undertipped and very happy to see my spanking-new greenbacks.

"Let me have a *pivo,"* I said, and he took a bottle of East German dark beer out of the freezer. I climbed onto a stool and when he poured it out our heads were close together. "For ten bucks," I said. "The name and room number of a man, blond, six feet tall who wears blue swim trunks and has an appendectomy scar."

"How much is six feet?"

"One hundred eighty-two centimeters," I flashed right back.

"Oh, him. A Russian by name of Alexei Svirsky. Room 146. He has a Bulgarian passport but he drives in a Tatra with Polish number plates. Who else but a Russian?"

"Who but." I knocked back the beer, and the tattered one thousand dinar bill I slipped him had a crisp sawbuck folded underneath it. The change came back, though the ten spot didn't, and I left a tip and headed for the door, but I wheeled around before I had gone two steps. I caught the trace of a vanishing smile on his hounddog chops.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"For ten bucks more," I said, letting the palmed bill project a bit from under my hand on the bar top, "how much is Alexei Svirsky paying you to report if anyone asks questions about him?"

"Five thousand dinar, cheapskate bum. Not him, his friends. He don't talk much."

"Here's ten thousand and another five when you tell me they asked and you told them there were no questions."

A slow nod, the bills shuffled and changed hands, and I left. My flanks guarded. I was very free with Uncle's money, but dinars aren't worth very much in any case. I went to my room, locked the door, tested to see if the place had been bugged since I left—it had not—then leaned out the open window. The pink concrete wall dropped six stories to a desolate patio floored with hard tramped dirt and a few patches of yellowed grass. A row of dead plants leaned against one wall and four empty beer kegs baked and drew flies in the sun. There was no one in sight, nor were there any bugs on the wall outside my room. I sat down in the chair facing my window and the row of windows in the other wing of the hotel.

"How do you read me?" I said in a low voice.

Across the way a curtain was closed, then opened again. It was next to an open window.

"I've spotted a suspect. He may not be the one we were told to look out for, but there is strong evidence to believe that he is. Bulgarian passport but could be Russian. Name of Alexei Svirsky in Room 146, and he weighs four hundred twelve pounds —at a rough estimate." The curtain twitched an interrogative, repeat. "That's right. Four hundred twelve pounds. I'm going to investigate."

As soon as I finished talking I turned away so I couldn't see the frantic jiggle of the curtain. I liked this setup: I didn't have to take any backtalk. The agent over there had a parabolic dish and a directional microphone. He could pick up a whisper in this room. But he couldn't talk to me.

While I was showering the phone rang but I ignored it. I could have been out, right? Moving a little faster now I pulled on slacks and a sport shirt and put on my sneakers with the ridged soles. There was no one around when I went out into the hall and down the stairs to the floor where I knew Room 146 was located. Since I had passed on my old information now it was time to gather some new. I found the room and knocked on the door.

Brash perhaps, but a way to get results. I would mumble something about wrong room and get a closer look at Svirsky and the layout of his room. If my visit worried him and he ran, we would find out things; if he stayed we would find some facts as well.

No one answered the door. I



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

knocked again and leaned against the panel to listen. No shower, no voices, nothing. A little calculated risk was in order. The tool steel picklock worked as fast as a key would in this primitive lock, perhaps faster. I stepped in and closed the door behind me. The room was empty.

My bird had flown. There were still marks on the bedcover where a suitcase had lain while it was being packed. The door of the big wooden wardrobe stood open, and if one of the coathangers had been swinging I would not have been surprised. It had all happened very quickly and efficiently. Nothing remained to mark Mr. Svirsky's visit. I went into the bath. The sink was dry, as was the shower, the towels folded neatly on the racks, threadbare but clean. Everything *too* clean and spotless since I knew the chambermaids weren't that efficient. And Svirsky had been staying here some days—so this was positive information. There was even a trace of dust in the sink. I rubbed at it with my finger just as the hall door opened.

Just a crack, a couple of inches, then it closed again. But it was open long enough—and wide enough—to roll in a hand grenade.

As it bounced towards me I recognized the type (XII) place of manufacture (Plzn) and fuse time (three seconds). Even before this last fact had impressed itself I had jumped backwards, slammed the door and collapsed inside the shower stall. Fast thinking and fast reflexes—that's a combination that can't be beat. I hoped, as I hunkered down with my arms clasped over my head.

It made a good deal of noise when it exploded.

The bathroom door blew in, fragments of grenade thudded into the wall above me and the mirror crashed in bursting shards to the floor. One steaming hunk of iron was imbedded in the tile about six inches in front of my nose. This was the closest piece, and it was close enough, thank you. I did not wait to examine it but was on my feet while the explosion still echoed, jumping over the remains of the destroyed bathroom door. Speed was the most important thing now because I didn't want to be found in this room. Diving through the still roiling cloud of smoke I pulled open the tottering door—it collapsed at my feet—and made it into the hall. I could hear shouts and doors opening, but no one was in sight yet. The stairwell was five paces away and I got there without being seen and started up. Fleury was waiting on the landing above.

"Svirsky has cleared out," I told him. "He moved out fast and left someone behind to roll a grenade in on top of me." There was the sound of running feet and shouts of multilingual amazement from the hall below. "That means they were tipped off about me, so I am forced



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

to admit that my informant, Petar the bartender, is a double agent."

"I know. He was the one who threw the grenade into the room. We have him in the truck and are going to question him under scopolamine before we send him home. But I doubt if we'll learn anything, he's just small fry."

"What about Svirsky?"

"That's what I came to tell you. Our road-watcher at Zadvarje, the next town, reports that a big Tatra with Polish plates just belted through there like a bomb, heading north towards Split. Two men in the front and one in the back. They were going too fast to make out anything more."

"Well that's more than enough. I'll take the jeep and go after them. Now that we have made contact we can't lose it."

Fleury chewed the inside of his lip worriedly. "I really don't know, it's a risk . . ."

"Crossing the street is a risk these days. Who do we have north of here that can head them off?"

"Just team Able Dog in Rijeka."

"That's pretty far away. Tell them to head south on the coastal highway, and if the Tatra doesn't turn off we'll have it trapped between us. We'll get a closer look at Alexei Svirsky yet."

Five minutes later I was on the road north, tooling the jeep around the tight turns of the twisting highway. It wasn't really a jeep, but a Toyota land cruiser, with four-wheel drive, rugged and powerful. A Japanese car with Austrian plates and an American driver. We were about as international as the other side. I put my foot to the floor and hoped the driver of the Tatra would remember what the roads inland were like.

Yugoslavia is shaped like a right hand, palm up, with the Adriatic Sea all along the bottom edge, running along the side of the hand and the little finger. The coastal highway, what the locals call the *Magistrale*, runs all the way along the shore. I was on this highway now, about the base of the pinky, heading north towards the fingertips—where I hoped the other car was heading. That would be the fastest and easiest way to get out of the country, because Rijeka is up there at the end of the little finger and a good road turns east from here to Zagreb—on the top joint of the middle finger—and then on to Hungary at the tip of the index finger.

There was another way to get there that I hoped the comrades would not consider. The Velebit Mountains come right down to the coastline here, rugged and steep, and are crossed by the oldest and worst roads in the world. There are only a few of these goat tracks, all in terrible condition, and a car going this way could be easily followed and headed off. I'm sure the driver of the Tatra knew this as well as I did and would make the correct decision.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

I drove. The Toyota whined up to over eighty in the straight and skidded broadside around the turns. I passed a loafing Alfa-Romeo with Milan plates, on a turn, and the driver shook his fist out the window and blared his highway horn at me. Split was right ahead and I worked my way through the traffic as fast as I could without attracting the attention of the milicija. There was no sign of a black Tatra, though I kept my eyes open. When I passed the turnoff to Sinj I tried to ignore it. Although it was a good road for about fifty miles it degenerated into a bumpy cow path in the hills. I knew that and I hoped that the Tatra driver did as well. Once past Split I opened her up again and hoped that I was following a car—not just a hunch.

At Zadar I saw them. The highway makes a long swing to the right here, bypassing the city, and there is a big Jugopetrol gas station right in the middle of the curve. When I spotted the station far ahead, the Tatra was leaping out of it like a black bug. They had stopped to fill their tank, or wash their hands, and given me enough time to catch up and get them in sight. I whistled as I belted around the turn and into the straight stretch that led to the Maslenica Bridge. There were a number of alternative plans and I was musing over them, deciding which was best, when we came up to the bridge and my right front tire blew out.

Since I was doing seventy at the time it was just a matter of good reflexes, good brakes—and luck. I twisted and skidded all over the road, and if there had been any traffic I would have had it right then. But the vanishing Tatra was the only other car around and after some fancy work on the shoulder, two fence posts and a cloud of dust, I slid up to the guard rail at the bridge plaza and bucked to a stop.

Blow out? Now that I had a moment to think I ran the old memory reel back and thought about that puff of smoke from the rear window of the Tatra just before the tire blew. Either this was a remarkable coincidence—or they had a gunport back there and someone was a very good shot with a hand pistol. I don't believe in coincidences.

For just about two seconds I thought about this and admired the view of harsh stone running down to the blue water of the arm of the sea below, and the bright orange bridge leaping over to the limestone cliff on the far side. Very dramatic. I was completely alone and the only sounds were the vanishing hum of the Tatra and the click of my cooling engine. Then I unpried my fingers from the steering wheel and dug out the jack.

If they ever have a Toyota tire-changing championship, I'll place in the money. I threw the tools in the back, kicked her to life and went after the comrades, more anxious



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

than ever to take a closer look at the frightened Svirsky. The road along here is like nothing else on Earth—in fact the landscape looks like the moon. Just rock, with sparse and deadlooking shrubs on it, falling straight to the sea, with the Adriatic Highway scratched along the face of the cliff. I concentrated on the driving not on the view. I didn't see the Tatra again, though I did see Lukovo and Karlobag, jumbles of low, drab buildings, locked and tomblike under the heat of the afternoon sun. About five miles beyond Karlobag I saw a tan Mercedes coming from the other direction and I slammed on my brakes as it whistled by, burning rubber as well. Making a sharp U-turn I pulled up behind the Mercedes which was stopped on the narrow shoulder next to the guard rail.

"Hi Able, Hi Dog," I said. "Seen any black Tatras lately?"

Martins, who had never smiled since I met him, shook his head in a lugubrious no. His partner, Baker, agreed.

"They have to have been here," I said, digging out my road map. "They were only a few miles ahead of me." I ran my finger along the map and sighed. "You're right. They're not. They turned off in Karlobag. They knew they were being tailed and even the dimmest of them could have figured out that there was a reception party ahead. Look."

I put my finger on the map and they looked. "A side road goes off into the mountains here, then over the top where it joins up with a good road at Gospic. After that they have a straight run for the border. Once they are past the first stretch."

"The first part is marked in yellow," Martins said. "What does that mean?"

"I'm afraid to find out." The map, issued by *Turisticki savez Jugoslavije,* was in Italian, and yellow roads were marked as being *Strada in macadam in cativo stato.* "In rough translation you could say unpaved and in lousy shape."

"That's bad," Martins said, looking like he was going to cry. "In Yugoslavia that is very bad."

"I'll give you a complete description of it when I make my report . . ."

"No," Martins said.

"Orders," Baker added. "We're supposed to take over the chase when we meet you. That came right down from the top."

"Not fair! I started this job and I should be left to finish it."

They shrugged, jumped into the Mercedes and charged off down the road. I climbed into the Toyota and followed them. So they could go first. But no one had said I couldn't follow them.

In Karlobag a rusty sign labeled Gospic *41* pointed up a hill at a cloud of dust. I hit the road and my brakes at the same time, then



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

lurched forward in compound low. It was more of a quarry than a road, made up of rounded stones—some of them as big as tabletops. I ground forward, dodging the worst ones, at five miles an hour. There was a loud explosion around the turn ahead. I hit the gas and bounced and skidded around it.

The Mercedes was off the road with its hood buried in the ditch. Its front wheels were angled out as if they were very tired and both fenders were peeled back like a pair of open tin cans. Things were still happening. A man in a dark suit stood up from behind a boulder on the far side of the road and leveled a long-barreled pistol. Before he could shoot, Martins, who had been driving, had his gun resting on the window ledge and fired just once. It was very dramatic. Black suit screeched shrilly, threw his gun up in the air, spun about and fell.

"Look after Baker," I shouted. "I'll take care of your friend."

I circled, fast and quiet, and came up behind the man who was flat on the ground, trying to clamp his hand over his bleednig arm and wriggle over to his gun at the same time. "No seconds," I said, picking up the gun.

He rolled over and looked at me. *"Sveenyah . . ."* he growled.

"It is the same in every language," I told him, and pocketed the gun. "And who are you to call names? Do decent people travel around with land mines in their cars?" I left him that one to think about while I went back to help Martins. He had Baker laid out by the side of the road, the first-aid kit open, and was smearing antiseptic on a bloody gash on the younger agent's forehead.

"Out cold," he said. "Breathing regular and it doesn't seem too bad —but you never know."

"Carry him back to the road, it's only a hundred yards, and flag down a car. There must be a doctor in this town. If not, there's a big hospital in Zadar. And if you remember it, you could send someone back to look at your target over there in the weeds. I'm going on to talk to Svirsky about the kind of friends he has."

I didn't give him time to argue, just started the Toyota and bounced away up the road. This was going to be a stern chase where my four-wheel drive would finally come in handy. By missing the worst tombstones I could hold her on 20, even 25 on some stretches. I was pretty sure the Tatra couldn't do this well, rugged as it is. Particularly when I saw it two turns above me on the snake-bended road.

All things considered it was doing all right, bouncing and swaying and throwing up a cloud of dust at all of ten miles an hour. These cars, which are never seen in the West, are the pride of the Skoda works. They're big and round and solid, only for high party officials and types like that. They are built and



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

sprung to take punishment, too. With a high fin down the middle of their backs like a Flash Gordon rocket ship and three headlights in the front they have more of a mad look than you would expect to find in this part of the world. Or maybe you would expect to. In any case, fin, headlights and shocks weren't helping him stay ahead. I was catching up slowly. We bounced and groaned and rattled around the bends and over the boulders and I was less than two hundred yards behind him when I saw, around the next turn, a spire and marker that might very well be the top of the hill. If he got there first, and onto a straight road, he might get away from me.

At this point the road headed away from the marker, went down and made a loop and came back on a higher level above the spot I was passing. A banked hillside separated the two stretches of road and I could see a beaten path where the pedestrians, goats and dogs took a shortcut to save walking the long loop of road. Where four legs go, four wheels go. I pulled the wheel hard right and bounced through the ditch and into the dirt.

In all truth it was smoother and better than the road, although just a bit more angled. The engine growled, the tires spun and dug in, and we went straight up. I shouted *yippee* and held tight to the wheel.

When I came over the shoulder the Tatra had already rounded the turn and was bounding my way, its three eyes gleaming. For a churning moment the Toyota hung up on the sharp lip, the front tires slipping on the smooth stones, until the back wheels dug in and shot us over the top.

Since the Tatra was about to pass me I did the only thing possible and ran full tilt into it.

I did manage to hit the hood so it jarred sideways. There was a sound like an explosion in a garbage can factory when we collided—then the Tatra nosed off the road and crashed into a well-placed pile of rocks. I braked, killed the engine and jumped out at the same time, but Svirsky was faster. He had the back door open even before the crash and had bounced out like an overweight gazelle. The driver was half-slumped over the wheel, mumbling to himself as he tried to drag out another of those long-barreled pistols. I took it away from him and cracked him at the right spot in the back of the neck that would put him to sleep for a while and keep him out of mischief. Then I followed Svirsky.

He had his head down and was pelting along the road like a runaway steam engine. But I just happen to be faster. When he reached the marker he turned off the road with me coming close behind him. I reached the high marker, passed it—then jumped back. The bullet tore a gouge from the stone just



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

where I had been. Svirsky must have been the backseat marksman who had taken out my tire, and his eye was still good. Next to my head was an inscription, in German, something about this road dedicated to our noble Emperor, Franz-Josef. I believed it. And I bet it hadn't been touched since the Emperor watched them roll the last boulder into place.

Keeping low I ran around the other side of the commemoration plinth and saw Svirsky vanishing into a grove of pine trees. Great! If he had stayed on the road, he could have kept me away with his deadly popgun. In the woods we were equal.

This was a northern forest, very much like the Alps. We had climbed high enough to leave the baked, subtropical coast behind and enter this pleasant green highland. Well me Leatherstocking, him the moose—or bear—I was going to do a little trapping. I could hear my prey crashing through the underbrush ahead and I circled out to the side to swing around him, running low, silent and fast.

My friend Svirsky was no Indian scout—or even a boy scout. He pushed those four hundred twelve pounds through the woods like a tank, and I kept him in sonar contact at all times. When the crashing stopped I kept going until I had passed the spot where I had heard him last, then came silently back.

What a setup! He was bent over behind a tree, looking back the way he had come, the gun pointed and ready. I considered the best course, then decided that disarming him might be the wisest first step. I came up silently behind him.

"Can I borrow that, Comrade?" I said as I reached over and—with a good tug—pulled the gun out of his hands.

For all of his weight he had good reflexes. He swung at me and I had to jump aside to avoid getting slugged.

"Hands in the air, or *Hande hoch* or whatever."

Svirsky ignored both me and the gun and, scowling terribly, he kept coming on in a wrestler's crouch, arms extended. I backed away.

"Someone can get hurt this way," I told him, "and the odds are that it's going to be you."

Still not a word, just that steady, machinelike advance.

"Don't say I didn't give fair warning. Stop, stop, stop, that's three times."

He completely ignored me so I shot him in the leg. The bullet ricocheted and screamed away and he kept coming. I could see the hole in his pants leg so I knew that I hadn't missed.

"All right iron man," I said, aiming carefully, "Let's see how good your joints are."

This time I aimed at his knee cap, with the same results. Nothing. I was backed up to a tree. I fired



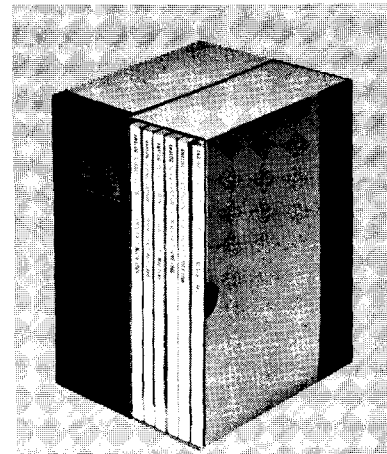
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

at the same spot once more before the bullets had any effect and the leg folded. But he was right on top of me then, coming down like a falling mountain. I couldn't get away in time and he hit me. I threw the gun as far away as I could before he closed those big hands on me.

Talk about strong, this joker had muscles of steel. I wriggled and twisted and kept moving, and I didn't try to hit him because I knew he had no nerves, no nerves at all. I twisted and pushed away, tearing most of my shirt off at the same time, and managed to get out of that mechanical bearhug.

Now it was my turn. I just climbed his back, locked my legs around his waist, and twisted his neck. He still hadn't said anything, I doubt if he could talk, but he thrashed his arms something terrible and tried to pull me off. He just couldn't reach me. I turned and turned until he was glaring back at me over his right shoulder. And then I turned some more. He was facing straight backwards now, clicking his teeth at me. And I kept twisting. There was a sharp crack and his eyes closed and all the fight went out of him. I just turned some more until his head came off.

Of course there was a lot of trailing wires and piping and that kind of thing, but I pulled it all loose and put the decapitated head on the ground. Some of the wires sparked when they grounded.

**Save Them Neatly!**

*No real Analog saver would clip a coupon from the magazine, of course, so we don't include one. Send your check for $2.50 to: Analog Dept. BB-3, P.O. Box 1348, Grand Central Station, New York, N.Y. 10017*


Now I had to find out where the brain was. Just because a robot looks like a man there is no reason to assume that its brain is in its head. Svirsky may have thought with his stomach. I had to find out. Ever since we had heard the rumors that a humanoid robot was being field-tested in Yugoslavia we had all been planning for this moment. Servo motors and power plants and hardware we knew about. But what kind of a brain were they using? We were going to find out. I pulled his shirt open and they hadn't even bothered to put



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the plastic flesh back completely the last time they had serviced him. They must have been in a hurry to leave. A flap of skin was hanging loose just above his navel and I put my finger in and pulled. He peeled open just like a banana, showing a broad, metallic chest under the soft plastic. An access plate covered most of it, just like on an airplane's engine, with big slotted fasteners in the corners. I bent a ten dinar coin twisting them open, then pulled the plate off and threw it away.

Well, well, I smiled to myself, and even went so far as to rub my hands together. Motors, junction boards, power pack, and so forth, all feeding into a bundle of wires in a realistic location where the spinal cord should have been and heading up through the neck. Brain in head —and I had the head.

"Thank you, Comrade," I said, standing and dusting off my knees, "you have been very helpful. I'm going to borrow your shirt, because you tore mine, and take some pictures of your innards to make our engineers happy."

I removed the shirt from the headless torso and propped him up so that the sun shone in through the access port. Now camera. I looked around carefully to be sure no one was in sight, then threw my torn shirt away.

"We have our secrets, too," I told him, but he didn't bother to answer.

I pushed with my thumbnail at the flesh over my sternum, then pulled with both hands until my skin stretched and parted. The lens of my chest camera protruded through the opening. "F2.5 at a 125th," I estimated, correctly of course, then shot the pictures, clicking them off with a neural impulse to the actuator. I could easily hide the head in the Toyota and these pics would be all the detail we needed about the body. Since there was no one else present I did not mind bragging aloud.

"Just like the space race, Comrade, neck and neck. And you went to the robot race the same way. Build strong, build for excess power, build double and treble in case of failure. That makes for a mighty heavy robot. Not even room left for speech circuits. While we built with micro and micromicrominiaturization. Sophisticated circuitry. More goodies in the same size package. And it works, too. When Washington heard you were going to be tested down here they couldn't resist field-testing me at the same time."

I started back to the Toyota, then turned and waved good-bye with my free hand.

"If you have any doubt about which approach works the best," I called out cheerily, "just notice who is carrying whose head under his arm." ■

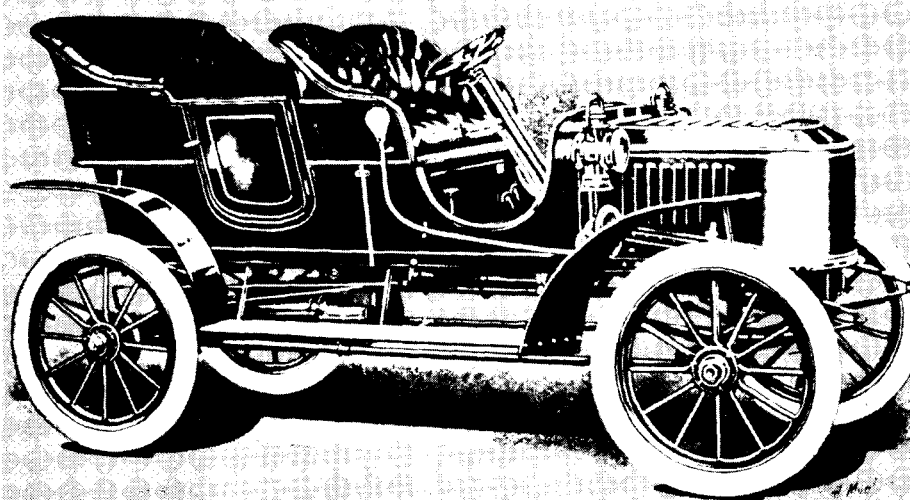


LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

# STEAMER TIME?

*When I suggested this article to West, I didn't know he was a steam-car buff of long standing—only that the Morse Report on Air Pollution had indicated that a modern steam car could replace internal combustion cars with all-around gain.*

**WALLACE WEST**



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Charles Fort, that pack rat of history, contended that the steamboat was invented only when economic, political, scientific and engineering developments combined to usher in steamboat time.

If Fort's theory is correct, conditions now may be ripe for a resurgence of steam automobiles—modernized versions of the Stanleys, Whites, Dobles and Dellings that gave internal combustion-engined cars real competition in the first quarter of this century.

Crowded back onto the shelf through a combination of circumstances involving racing restrictions, advertising and a whispering campaign, steamers again are attracting widespread attention. This has happened because their power plants produce virtually no unburned or partially burned hydrocarbon gases, no lead, and very little carbon monoxide, nitrogen oxides or other components of the nasty photochemical smog that is rapidly engulfing the United States.

Steamers share their smoglessness with gas-turbine cars, fuel cell and battery-driven electrics and other external combustion vehicles now under laboratory study. The former have an inside track however, because plans, patterns and specifications of once-popular models are extant, because at least one small company continues building steamers to order and because some seven thousand of the old-timers still whisper along America's highways or repose in its classic-car museums.

Conversion to steam would require far less research, development and retooling by Detroit than would a shift to electric cars. The turnaround could be made in a few months instead of the decade that almost certainly will be needed to develop a sufficiently safe, powerful, light and long-lived battery or fuel cell.* It would control air pollution much more effectively than the crankcase blowby and exhaust emissions gadgetry with which 1968 models are complicated. It would not cause a major revolution in the oil industry such as a shift to electrics would bring. (Steamers will burn any hydrocarbon compound, including gasoline, kerosine, bottled gas or even buttermilk, depending on which is handiest and cheapest.)

The change might have a temporary impact on the rubber companies because the smooth torque provided by steam power is easy on tires. But this would be offset by the fact that current proposals to restrict driving in heavily smogbound urban areas could be dropped.

Finally, a swing to steam would make driving fun once more in-

* For the best discussion of this problem that I have found, see the editorial, "Portable Power" in the March, 1967, Analog.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

stead of the bore it has become in recent years. I make this prediction because I owned a Stanley in the heyday of steam. A handsome, though somewhat battered, 1924 model, it was destined to be the last of a line of classic cars stretching back to 1898. It was as large as a Cadillac but gave me fifteen miles to a gallon of ten-cent kerosine at a time when gasoline sold for thirty cents. It was the best car I ever owned.

I fell in love when I saw a dealer demonstrating the Stanley on a downtown street in my home town, Indianapolis, Indiana. He had cramped its front wheels against an eight-inch curb. By manipulating the hand throttle on the steering column he gently rocked the car up onto the sidewalk and back to the pavement. What a crowd he had collected!

I was taken for a demonstration up the steepest hill near town. The first half of the ascent was made with no effort and at a good clip. Then the driver stopped, climbed out and walked beside the car up the rest of the grade.

Descending, we encountered a brand-new twelve-cylinder Cadillac laboring upward in low gear. Throwing the Stanley into reverse, my man beat the Caddie to the top of the hill by a handsome margin.

After that I had to own the thing although, as a fledgling lawyer, my finances were shaky. It had been repossessed, however, so I was able to buy it for much less than the $2,-500 new car price.

For a year or so I had a picnic, literally and figuratively. Not only was my purchase the fastest, smoothest and most comfortable car on the road, but it provided me with an excellent traveling kitchen. Just stop in a grove by the roadside —there still were roadside groves in those days—open the top of the boiler, a washtub-sized steel drum under the hood—put in a few hamburgers and some roasting ears borrowed from a nearby field—add a coffee pot—wait in the shade for half an hour—and dine like a king!

---

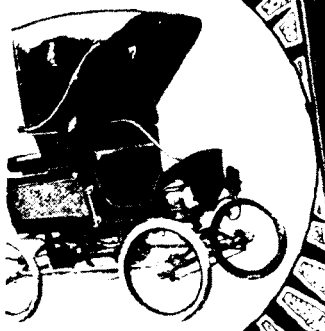
The car did have drawbacks, although I soon set most of them right. The former owner had neglected to blow the boiler or put oil in the crankcase. As a result, lime from Indiana's hard water had caked the lower ends of the one hundred or so small tubes that were tightly packed into the boiler. And the engine's slide valves had been scored.

When a mistreated tube overheated and began to leak, first warning was a cloud of steam seen in the rear-view mirror, the shout of "You're on fire!" from a pedestrian, or the wail of a pursuing siren. Then it was "Pull over, Bud!" unbolt the kerosine burner under the boiler—a dirty, finger-blistering job —and hammer the end of a cone-shaped expander into the offending copper fire (heat conducting) tube



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

STEAM



# Toledo

Water Tube Boiler
Single Operating Lever
Combined Steering Lever
and Auxiliary Pump
Automatic Air Pump
Siphon Tank Filler
Feed Water Heater

*Superheating Steam Coil*

and many other distinctive features which places the Toledo at the

HEAD OF ITS CLASS

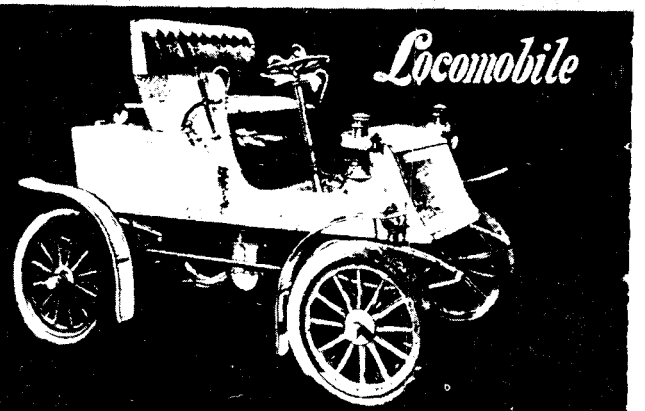
Sold for $[illegible] Each

AMERICAN BICYCLE COMPANY
AUTOMOBILE DEPARTMENT
TOLEDO, OHIO

N. Y. Branch: 91 Fifth Avenue

1901

# Locomobile



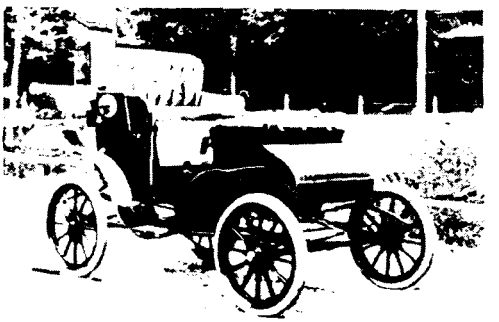
*The Locomobile is the best automobile*

[illegible] new gasolene Locomobile is "Easily the best built car in America."

[illegible]*comobile* Company's Executive Headquarters removed to factory, Bridgeport, Conn.

1903

# LANE



[illegible] York-Rochester, September, 1901 First-Class Certificate
[illegible] Island Contest, April, 1902 Blue Ribbon
[illegible]mobile Club of America, May, 1902 Non-Stop Certificate
York-Boston, October, 1902-President's Cup

QUALIFIED FOR AND AWARDED GOLD MEDAL

GET OUR CATALOGUE

LANE MOTOR VEHICLE CO., POUGHKEEPSIE NEW YORK

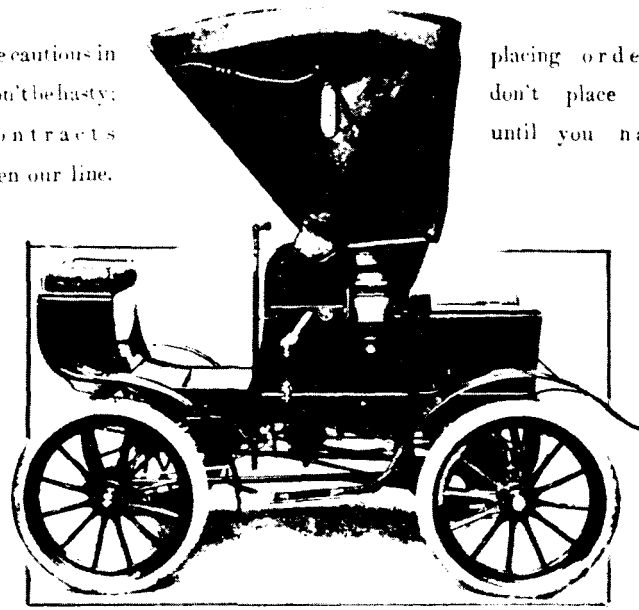
1903

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

# Caution
TO
# Automobile Dealers

**The season of 1902 is over; you are now no doubt getting ready to decide on what you are going to push this coming season, which will without a doubt be the greatest STEAM season the trade has ever witnessed.**

Be cautious in placing orders; don't be hasty; don't place any contracts until you have seen our line.



This car is provided with SPECIAL "READING" Model "E" Physician's Stanhope

**"READING" and "METEOR" STEAMERS** [illegible] coming season will be equal to any [illegible] Our R. M. Model "A" is the most marvelous [illegible] ever seen. The motor industry has ever seen.

**ABSOLUTELY RELIABLE, STRONG and SPEEDY**

See us New York Show, space 69, Main Floor.

## DEALERS

OUR NEW MODELS WILL SURELY PROVE TO BE WINNERS

WRITE US TO-DAY FOR OUR PROPOSITION

The Meteor Engineering Co.

Office and Works

**READING, PA.**

*1903*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

until it grew tight enough once more.

The scored valves quit on me one winter night when I was transporting a prospective client and his family from Noblesville to Indianapolis. The two-cylinder, thirty-horsepower engine attached to the Stanley's rear axle suddenly began delivering thirty-flypower. Speed the car retained—seventy miles an hour or more on the level—but the slightest grade slowed her to a crawl. To get over the brow of a hill we all had to jump out and push!

After the valves were ground and the boiler replaced—those boilers carried a five-year guarantee against anything, including stupid drivers, so the exchange was inexpensive—the car served me nobly.

In winter, or when I needed a quick morning start, I kept a gasoline pilot light burning under the boiler. This used one gallon of fuel every twenty-four hours to maintain a full head of two hundred fifty pounds of steam. The hot boiler kept the water tank and condenser —radiator to you—from freezing, even in sub-zero weather. Thus a steamer could be used throughout the winter at a time when most conventional cars were put up on jacks in their garages.

I learned, through sad experience, not to push the throttle all the way up when in reverse. (But how many persons have bashed rear fenders and garage walls with conventional cars?)

I blew my new boiler religiously each Sunday after church by opening one valve and stepping quickly to one side while dirty steam spurted. Then it was necessary to preheat the burner as one does a kerosine or gasoline stove, fire up with a match and wait five minutes for enough steam to be generated for a twenty-miles-an-hour start. This speed attained, the throttle, like that of an old-time locomotive, was eased halfway back on its quadrant. This maintained speed while allowing steam pressure to build rapidly. Woe, however, to the unwary acquaintance who wanted to "try out a steamer." Unless warned, he invariably would leave the throttle fully advanced. This allowed steam to blow right through the cylinders. Within a mile, pressure would be down to near zero and the car would barely crawl.

Yes, there were tricks to handling a steamer. But economy, speed, comfort, long life and simplicity (the Stanley had only twenty-four moving parts, including its wheels, although it must be admitted that the four-cylinder White was an engineer's nightmare) compensated for the few real drawbacks.

---

The thing that finally put steamers out of business was that the whispering campaign mounted, despite repeated denials, by the makers of internal combustion engines, gasoline and tires.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

On the one hand steamers, like electrics, were held up to public notice as figures of fun. Folks who drove them were the subjects for cartoons. How could they possibly prefer even the exquisitely styled and machined Doble of California to a Duesenberg or Stutz? Even as late as last year a leading editorial in the *Daily News* of Minot, North Dakota—once a staging area for the mighty steam buses known as Mountain Wagons—commented that the greatest problem in bringing them back "will be to rid the public of the comical Stanley Steamer image."

Conversely, steamers were portrayed as menaces. Highway policemen and garage mechanics viewed them with disfavor. Despite a standing offer by the Stanley Company to give a new car to any owner whose boiler exploded—an offer that was never taken up—the usual greeting at service stations was: "Hasn't that damned thing blown up *yet*?"

A few attendants even stooped to downright sabotage. Sometimes the kerosine purchased was taken from dirty or rusty cans. Thereafter, at the most inconvenient times, a driver had to borrow his girl's hatpin to clean out a clogged burner nozzle.

I soon developed a technique for squaring things with garage men who used the fire hazard excuse for refusing to let me park overnight in their premises. (In the '20s a man would as soon have let his car as his grand piano stand outside in bad weather.)

When firing up in some far corner of a back lot I would let enough steam escape from the boiler to build a nice charge of static electricity inside the car. Then, upon my departure, I would hand Scrooge a fifty-cent piece as his rental. Wham!!! What a lot of new words I learned that way.

The demise of steamers was aided by the fact that the Stanleys didn't believe in advertising. They argued that the only truthful ad was a satisfied customer. In addition, F. O. Stanley lost all interest in the company after F. E., his identical twin, was killed in an auto accident.

Also, although nobody realized it at the time, steamers had been given a lingering kiss of death as far back as 1907, the year they were ruled off all American race tracks. The ban was imposed by the motoring hierarchy after Fred Marriott crashed on the Ormond, Florida, beach while trying to better the record of 127.66 miles an hour that he had made there in a Stanley the previous year.

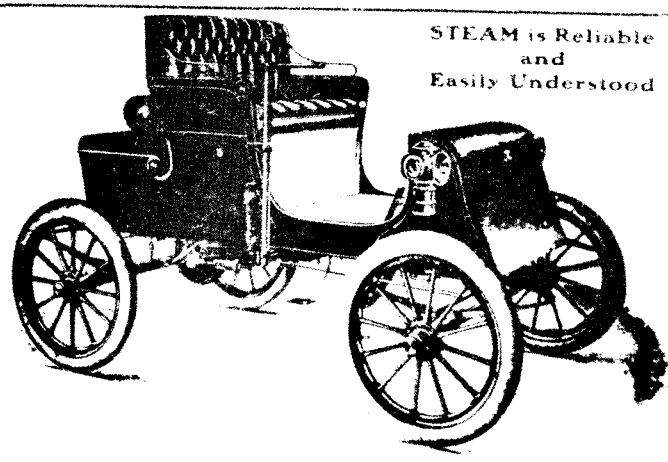
The beach was in poor condition that January day. While traveling 180 miles an hour—faster than the speed of a golf ball as it leaves the tee—the tiny, streamlined car hit a bump and took off. It actually flew for nearly a quarter of a mile, then turned over and mauled Marriott rather badly. Thereafter the pow-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE JAXON

STEAM is Reliable and Easily Understood



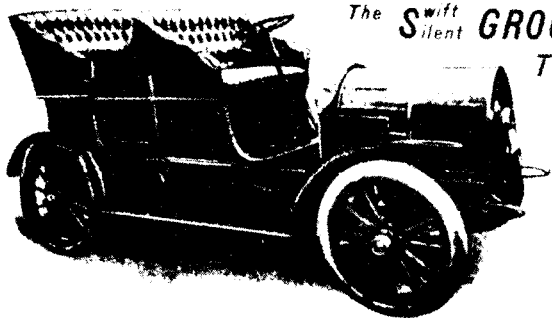
THE JAXON

SEE OUR EXHIBIT AT SPACES 108-109, CHICAGO SHOW, OR SEND FOR CATALOGUE

JACKSON AUTOMOBILE CO. - Jackson, Mich.

*1905*

The Swift Silent GROUT TOURING CAR



Model 1905

Price $1500

**Reason backwards or forward, use argument or practical demonstration, you will invariably find that steam propelled autos are the most reliable and durable, besides being**

**ALWAYS SATISFACTORY**

**Silent Grout Steam Cars.**

**No Hill Too Steep. No Weather Too Cold. Handsome. Powerful. Comfortable.**

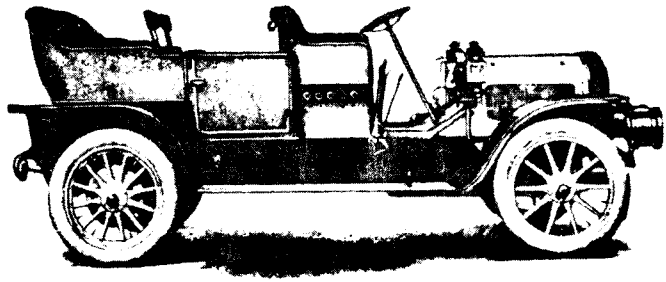
**THE GROUT BROTHERS AUTOMOBILE COMPANY**

**Factory at ORANGE, MASS., U. S. A. Boston Branch, 151-153 COLUMBUS AVE.**

*1905*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

# The 1909 White Steam Cars



DURING the coming season, the White Steam Cars will be built in two distinct models which, while differing widely in size, in power and in price, will follow the same general lines of construction.

The larger of the new cars (shown in the above illustration) is known as the Model "M." It is rated at 40 steam horse power and sells for $4,000, f. o. b. Cleveland. The wheel-base is 122 inches; the front tires 36 x 4 inches and the rear tires 36 x 5 inches. The car is regularly equipped with a straight line seven passenger body.

The smaller of the cars will be known as the Model "O." It is rated at 20 steam horse-power and sells for $2,000, f. o. b. Cleveland. The wheel base is 104 inches and the tires, both front and rear, are 32 x 3 1/2 inches. The car is regularly equipped with a straight-line five-passenger body.

The power plants of the two models are identical in design, the only difference between them being in the dimensions of the various parts. The principal mechanical change in the new cars, as compared with previous White Models, is in the engine. The new engine is fitted with the Joy valve mechanism, in lieu of the Stephenson valve mechanism. The number of parts in the engine is reduced by one-half and the entire construction greatly simplified.

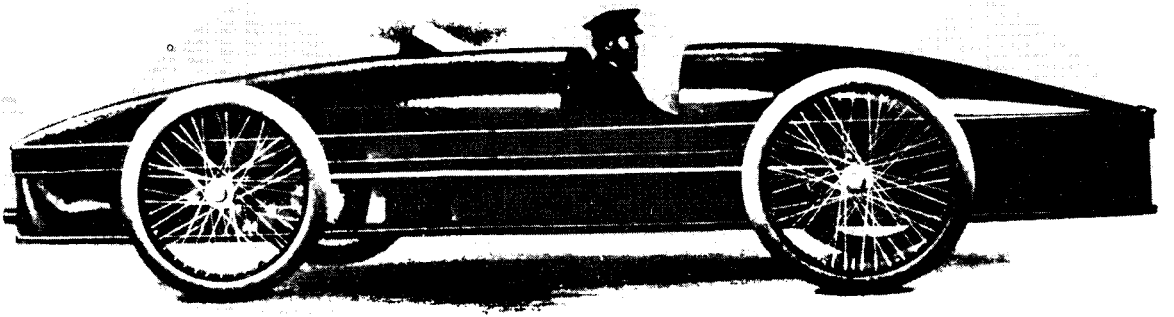
As in previous models, the generator (the simplest steam making device ever designed) consists simply of a series of coils of steel tubing joined together. The regulating system, whereby the temperature and pressure of the steam remain constant without in any way engaging or requiring the attention of the operator, is similar to that in the 1908 cars.

A Circular containing full details of the new models will be sent on request

## THE WHITE COMPANY
### CLEVELAND, OHIO

NEW YORK CITY, Broadway at 62d Street
BOSTON, 320 Newbury Street
PHILADELPHIA, 245-247 North Broad Street
PITTSBURGH, 133-135 Penn Street
CHICAGO, 241-243 Michigan Avenue
SAN FRANCISCO, 240-252 Golden Gate Avenue
ATLANTA, 70-72 Marietta Street

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



# THE FASTEST CAR IN THE WORLD

**(Rate of 127.66 Miles an Hour)**

This car, at Ormond, Fla., Jan. 24 to 28, 1906, established the following World's Records:

| WORLD'S RECORDS | | FORMER RECORDS | |
|---|---|---|---|
| 1 Kilometre | .18⅘ | Darracq | .21⅖ |
| 1 Mile | .28⅕ | Napier | .34⅘ |
| 1 Mile in Competition | .31⅕ | | .41⅘ |
| 5 Miles | 2.47⅕ | Napier | 3.17 |
| 2 Miles (World's record for cars eligible under the rules) | .59⅗ | | |

The 5-mile record was made in competition, with a scoring start, and was at the rate of a mile in 33⅗ seconds, which is faster than any gasolene car built according to A. A. A. rules ever made for a single mile.

The power-plant in this car is exactly like that in the regular Stanley cars, except that it is larger, of about twice the power as the Touring Cars (Model F). It weighs 1,600 pounds, and has margin enough for another boiler of the same size (512 pounds) without passing the racing weight-limit of 2,204 pounds. The boiler is 30 inches in diameter and 18 inches deep. It contains 1,475 tubes, and has a total heating surface of 285 square feet. A steam pressure of 800 to 900 pounds is carried. The engine is 4½ x 6½, and makes 350 revolutions to the mile. The wheels are 34 inches in diameter, and make 600 revolutions to the mile. They are equipped with 3-inch G. and J. tires. The body is so designed that the largest cross-section it presents, including the wheels, is only 9 square feet.

*NOTE*

*While Mr. Stanley appears in the driver's seat, this record-breaking car was driven by Fred H. Marriott of Newton, Mass.*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ers-that-were of that era ruled that steamers were too dangerous to be allowed to engage in competition. Marriott's 1906 record stood unchallenged for six years and was not equaled in long-distance racing until 1926.

The Stanley Brothers failed to realize the long-range impact of the emphasis that Detroit had begun placing on speed and made no effort to fight the ban. In fact, F. O. commended that "The most valuable lesson learned by this accident was the great danger such terrific speed incurs. So we decided never again to risk the life of a courageous man for such a small return."

---

That attitude is in striking contrast with the one adopted by Andy Granatelli under comparable circumstances. Granatelli's STP Turbocar was ruled off the Indianapolis Speedway by the U.S. Automobile Club last year after it came within an ace of winning the 500-mile grind by a wide margin. Knowing that, unless he breaks Detroit's hold on racing, his chance of popularizing a turbine-driven car is nil, Granatelli has mounted a vigorous counterattack. It includes personal appearances before groups of racing fans, advertising, and showings of "The Silent Screamer," an exciting two-reel color short about the STP made by Paramount.

Granatelli, like the Stanleys, has been shamefully treated. (It was a broken gear box, not a dangerous or faulty turbine, that put his car out of the race ten miles short of the finish line.) Whether his publicity campaign or the injunction his lawyers are seeking against the Club's ruling will bring the STP back to the tracks is doubtful. Detroit is determined that the internal combustion engine is God's gift to mankind and must continue indefinitely as his one source of mobile power.

Chrysler, for example, has a turbine which it has tried out with great success in a number of experimental cars. It could be put in mass production quickly. But, as one of its technicians told me when I visited the Chrysler laboratory: "We won't bring it out unless we're being squeezed to the wall. Because of the high cost of retooling we'd much rather ride along with the Clean Air Package which we developed last year and which the other company's are putting on their 1968 models."

The question arises, however, whether Detroit's gadgetry will long satisfy the Federal Government's demand for cleaner air. It appears that various crankcase blowby suppressors and Chrysler's exhaust control system are, on new cars, substantially meeting requirements of the Air Quality Act of 1967. These are that hydrocarbon emissions be held to 275 parts per million and carbon monoxide emissions to 1.5% of total exhaust gas.

These systems are only about



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

fifty percent efficient now and their air-cleaning ability will decrease with the age and mileage of cars on which they are installed. In addition, the number of vehicles on American roads is expected to double within ten years. Unless further substantial progress is made on emission controls, the particular type of smog created by the interaction of auto exhaust and sunlight will be as bad, or perhaps worse, in 1978 than it is now.

Uncle Sam and authorities of the smog-ridden state of California have served notice that emission requirements will be made much stiffer soon and will include controls for nitrogen oxides, the stuff that turns Los Angeles air a dirty brown.

It is estimated that, "on the basis of current technology, it will be commercially feasible during the next decade to reduce exhaust emissions from new gasoline internal combustion engines to values at least as low as: hydrocarbons—50 ppm as against 900 ppm for uncontrolled vehicles, carbon monoxide .5% as against 3.5% for uncontrolled cars and oxides of nitrogen to 250 ppm as against the present 1500 ppm." But Government officials are frank in saying that such reductions will not be sufficient.

So what happens? Ford and GM already have come a cropper with systems that introduced compressed air under exhaust valves in an attempt to burn pollutants in the exhaust manifold. Company engineers are cagey when asked why they adopted the Chrysler technique—essentially a super tune-up that burns pollutants inside the motor cylinders. It is known, however, that several hopped-up manifolds on test vehicles melted right down into the pans.

Further improvements must be made, nevertheless, in the very near future. This was emphasized last October when a panel of advisers to the U.S. Department of Commerce and other Federal agencies made a report that shocked the auto and oil industries to their cores. The panel said motor vehicles cause more than sixty percent of all air pollution, ruled out electric cars as a short-range solution to the problem, proposed a $60-million Federal program to develop cleaner vehicles of any possible design, and went on to say that:

> "Vehicles using external combustion engines for propulsion, such as the piston-type steam engine of advanced design, potentially offer a satisfactory alternative to the present automobile and should have very low pollution and noise characteristics."

The panel, chaired by Richard S. Morse of the Massachusetts Institute of Technology's Alfred P. Sloan School of Management, made sixteen recommendations. Those pertaining to motor vehicles are as follows:

> "The Federal Government should continue to establish standards



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

for all harmful automotive emissions, and realistic timetables for the achievement of such standards.

"The Federal Government should immediately establish standards for the lead content in gasoline . . .

"The Federal Government should set standards for emissions, including smoke and odor, for gasoline and diesel-powered trucks and buses.

"All government standards concerning vehicle emissions should be developed in terms of the total mass of specific pollutants emitted under an appropriate driving cycle, rather than as the percent of pollutant in the exhaust.

"The creation of effective local inspection mechanisms to enforce vehicle emission standards should be encouraged by the use of Federal matching grants for training, equipment and operation.

"The Federal Government should initiate a five-year program, in total amount of approximately 60 million dollars, to support innovative development useful in the establishment of future emission standards, in the following areas: (a) energy sources for vehicles; (b) vehicular propulsion systems; (c) emission control devices; (d) special purpose urban cars; (e) general purpose vehicles.

"Federal, state, and local governments should incorporate low-emission performance criteria as factors in the purchase of vehicles for their requirements."

The lengthy document, officially entitled "The Automobile & Air Pollution" but now generally called the Morse Report, continues by pointing out, among many other things, that:

"The state of technology does not permit the current development of an economically feasible electric car except for special-purpose, limited-range use . . .

"Vehicles using external combustion engines for propulsion, such as a piston-type steam engine of advanced design, potentially offer a satisfactory automobile . . . since the heat source operates at atmospheric pressure, relatively low temperatures, and with an excess of oxygen under controlled conditions."

Why did this distinguished group of scientists—originally designated The Panel on Electrically-Powered Vehicles—turn its collective back on voltswagons and plump for steam? For the following reasons:

Until a better battery or fuel cell is developed—a breakthrough that probably will take ten years—the fume-free, quiet electrics just won't measure up for anything but slow, short-haul city runabouting.

Steamers built with modern alloys that resist high temperatures and engineering techniques developed since the 1920s also are quiet,



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

produce very few harmful or even unpleasant emissions, can compete on equal terms with the ICs and can quickly be put on the highways.

The report notes an important exception when it says:

"From the economist's viewpoint, air pollution represents a classical example of an 'external dis-economy' which results when there are inadequate market forces to compel consideration of the costs imposed by an action on others in the society.

"The automobile industry has consistently viewed the general problem of atmospheric pollution as outside its areas of competence and responsibility. None of the manufacturers, for example, has developed any in-house capability with respect to atmospheric physics or the medical aspects of air pollution.

"Because of the attitudes and problems within the automobile industry, including fear of potential Government antitrust reprisal, cooperative interindustry programs relating to pollution control have been either nonexistent or ineffective. Recent agreements between Ford Motor Company, Mobil Oil Corporation, and Standard Oil Company (Indiana), and Chrysler Corporation, and Standard Oil Company (New Jersey) indicate that a change in this situation may be under way."

To repeat then: there are two main reasons for the current interest in steamers. In the first instance, they employ an external rather than an internal source of power. Their operation, that is, depends upon steam created by heat applied to a boiler rather than upon the explosion of gasoline vapors in their cylinders. Their boilers, whether of the fire tube or the more advanced water tube and flash varieties, are fired by burners that always are either "On" or "Off". Instead of continuously making adjustments in an attempt to meet the power demand of changing driving conditions, the burner turns on automatically when steam runs low and turns off at pressures varying from 250 to 1,000 pounds per square inch.

Any On-Off fuel system, including a home oil burner, is far more efficient than the finest carburetor. It can be adjusted to the point where its products of combustion are, not a devil's brew which has never been completely analyzed, but largely a harmless combination of carbon dioxide and water vapor.

But there's an even greater difference between internal and external power plants: the difference between the high and low temperature equilibrium mixtures of exhaust gases they produce. Combustion *within* a cylinder must take place at greater speed, under high pressure, and with a relative shortage of oxygen. A spark ignites one small portion of an uncertain and



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ever-changing fuel-air mixture. The flame has only a fraction of a second to burn across the piston head before the charge is swept away to be replaced by another.

As a result there is always a thin layer of fuel that is not consumed. Moreover that layer is changed from a nonreactive hydrocarbon into a highly reactive or olefinic compound. That layer of partially reacted hydrocarbons, nitrogen oxides, hydrides, aldehydes, ozone and other complicated chemicals passes into the air through the exhaust pipe and reacts once more with sunlight to become photochemical smog.

The operation is reminiscent of the old electric arc nitrogen fixation process. This snatched superhot nitric oxides out of an electric flame and cooled them before they had time to reverse the equilibrium and get back to plain nitrogen and oxygen. (It also reminds me of a comment by a famous Shell Oil Company combustion engineer: "Nobody really knows how or why IC engines run and I am of the fixed opinion that they are works of the devil."

By contrast, the flame under a boiler is many times "cooler" than that inside a pressurized cylinder. Plenty of time is available in which to burn the fuel. The flame can unite hydrocarbons with all the oxygen they crave because it has all outdoors to draw upon. This means that the end products of combustion are mainly harmless $CO_2$ and $H_2O$. Any nitro-oxides formed have time to break down as they cool off slowly from flame temperature. The difference between IC and EC combustion, therefore, is that between a smoky fire just starting in damp wood and the clear, oxygen-rich flame of a Bunsen burner.

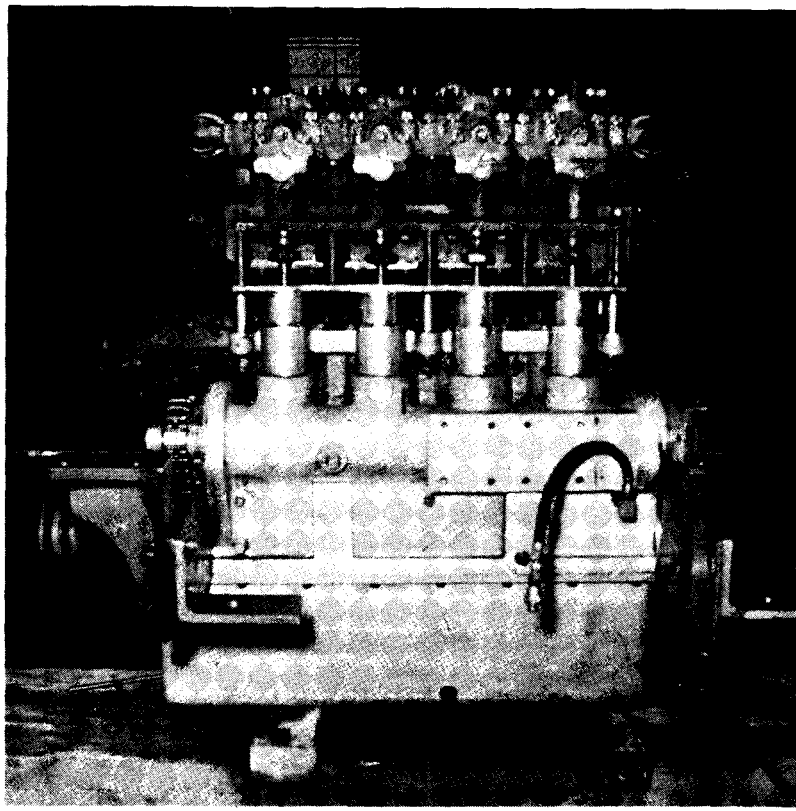
Consider, for instance, this test run on a Williams steamer and reported in the September, 1967, issue of *Industrial Research*:

> "At the request of the Ford Motor Company, Mobil Oil Company carried out tests at its Paulsborough (N.J.) facility to evaluate the pollution properties of a Williams roadster. Hydrocarbon emissions were only 30 to 40 ppm, compared to the 275 ppm level required on 1968 cars. Carbon monoxide level is 0.3%, compared to 1.5% required; and oxides of nitrogen in the steam-car range between 25 and 35 ppm, while present vehicles emit between 1,500 and 3,000 ppm." (The magazine should have added that the Williams produced no atmospheric lead because it burned unleaded kerosine.)

President George Frain of the Washington, D.C. Committee to Revive the Steam Automobile—there are a number of such groups in the U.S.—checked out this information with the Williams Engine Company, Inc., of Ambler, Pennsylvania, and found it to be



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



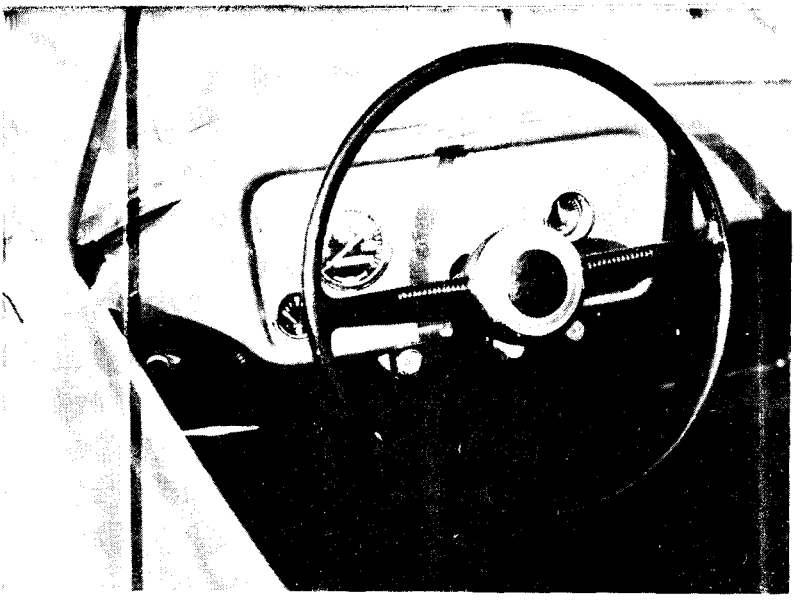
*Four-cylinder steam engine of the modern Williams steam car.*

accurate. The firm was founded many years ago by Calvin C. Williams, a brilliant engineer. He designed a single-tube flash generator that can provide a head of steam in from thirty to sixty seconds and a four-cylinders-in-line, single-acting engine rated at 150 horsepower but able to provide 250 hp in a pinch. This power plant has a road efficiency of twenty-five percent as compared with fifteen percent for the average IC car.

Since the recent death of the founder, his twin sons, Charles J. and Calvin E. Williams, are carrying on as best they can. They supply steam buffs with power plants ready for installation in any standard chassis, or build the engines, boilers, plumbing and simple controls into Chevelles. Prices are high

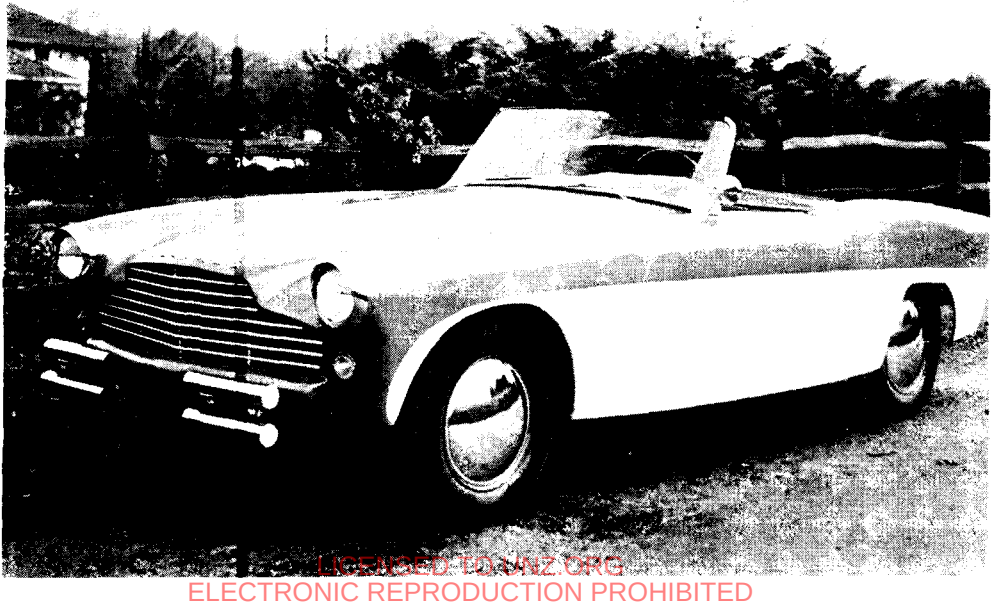


LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



*The modern steam engine system is simple—and so is the instrumentation!*

*The Williams steam roadster—which is designed as a comfortable road car, but readily exceeds 100 miles per hour.*



LICENSED TO AMZ ORG
ELECTRONIC REPRODUCTION PROHIBITED

because all work is done to order but the brothers are convinced they can get costs down to levels competitive with the ICs when they go into mass production.

"We have been in contact with HUD (Housing & Urban Development) and HEW (Health Education & Welfare) but they certainly move very slowly," Charles Williams recently wrote to Frain. "We have had conferences with leaders in the auto and oil industries and we find that they are as slow moving as the Government. We sometimes wonder if the smog menace is as menacing as we are led to believe by the news media. With a few million dollars we could start mass production immediately."

Frain has suggested to Williams —and to Ralph Nader, gadfly of the auto industry—that the Federal Government be urged to implement a Morse Panel suggestion that it "test innovative control methods," including steam, on the eighty thousand vehicles it purchases each year.

---

So much for steamers as nonpolluters. That characteristic has given them their comeback opportunity but is not enough, by itself, to make them popular with the public. What else do they have that can enable them to compete with the entrenched ICs? The answer, once more, is their external combustion power plants.

Steamers have always been famous for their tremendous torque —their ability to develop full power at any speed—to climb curbs, hills, mountains and, on at least one documented occasion, a tree!

Torque is the twist or torsion that a shaft undergoes when transmitting power. It is measured in pound-feet; force exerted at a point one foot from the center of a shaft. All the torque energy provided by an IC motor must be stored in its flywheel. There's no other place to put it. Rev up the motor and you jam a terrific spurt of torque into the angular momentum provided by the heavy wheel. Put any sort of load on an idling motor, on the other hand, and you stall.

I saw this demonstrated at a Bahamian port last winter when a huge barge was being docked after the breakdown of its high-torque steam winch. A 500 hp diesel bulldozer was commandeered to pull the stern of the barge to the pier against a strong tide.

A first attempt, made a full throttle, caused the two-inch cable to snap and dissipate its energy quota by threshing about the dock like a boa constrictor. Next time the bulldozer was eased into the pull . . . and stalled. Then the driver tried moderate acceleration. The cable stretched as energy was stored inside it. The barge inched toward shore.

But, its flywheel torque drained, the motor stalled once more.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Whereupon the bulldozer was dragged backward across the dock by the shrinking cable. It barely escaped teetering into the sea.

The barge finally was moored after tide change.

Unlike a diesel or other IC, a steam engine's power is stored, not in a flywheel but in vapor pressure on its boiler. It needn't race to achieve power. Like Ole Man River, "it jes' keeps rollin' along." This provides a very fine feeling for a driver when his car is hub-deep in snow or mud. (I once forded a stream with burner cut off, engine immersed and water lapping at the brake pedal.)

This external source of power also explained why the tires on my Stanley lasted and lasted in a day when the average life of a set of fabric "shoes" was only a few thousand miles. I *could* burn rubber by shoving up the throttle while the car was standing still. But what was the point of that? The Bearcats and Marmons always ate dust although I never found a road good enough to permit me to drive wide open.

There were other bonuses: The burner was "On" only about a fifth of the time when the car was cruising at normal speeds. And steam engines never idle. All of this saved much wear and fuel. The car had no trouble-breeding clutch or transmission. And the torque could be changed to meet operating conditions merely by touching a foot button that varied the point at which steam admission to the cylinders was cut off. Early cutoff allowed only a small amount of steam to enter and was used for cruising. Late cutoff permitted steam to be applied to the pistons all the way to the bottom of their strokes. This provided power for use in emergencies.

Why did I part with my Stanley if I loved it so?

Came the Great Depression! Although it broke my heart I had to sell it to my senior partner. Upon his death several years later I tried to buy it back from the estate, but a classic-car buff with real money snapped it up. Still in new car condition, it now is priced at $7,000.

I am consoled because my erstwhile pride and joy won a Chicago-to-New York race for antique autos back in the mid 1950s. While the other jalopies clattered and smoked through the night at twenty-five miles an hour or so, the Stanley's driver averaged sixty to Midway on the Pennsylvania Turnpike, spent a comfortable night in a motel, and still reached Rockefeller Plaza an hour ahead of the pack.

Bibliography

Automobiles & Air Pollution . . . report of the Panel on Electrically Powered Vehicles . . . R. S. Morse, chairman. (For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Price: 60 cents.)

Derr, Thomas S.: "Modern Steam Car and Its Background." Los Angeles, Floyd Clymer Publications, (ND).

Homans, James E.: "Self-Propelled Vehicles" N. Y., Audel & Co., 1914.

West, Wallace: "Clearing the Air." N. Y., American Petroleum Institute, 1967.

White Company, "White Steam Cars. Instructions, Models K. and L." Cleveland, O., White Co., (ND).



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

## IN TIMES TO COME

*Next month's lead novelette by Poul Anderson is, I believe, an instance of feedback at work. I can't* know*—but I suspect that an astrophysicist saw Poul's "Supernova" story (January 1967 issue) with its suggestion of the magnetic and hard-radiation hell that a supernova could cause on a planet a few light-years away. And started thinking about it—wondering—and doing some calculating.*

*In any case, he did do such calculating—and found that the statistical factors indicate that the Earth must have, in its four-plus billion years of wandering through the galaxy, passed near a number of detonating supernovas. With a given frequency of occurrence of supernovas, and a given distance over which the cosmic-ray output of an exploding supernova is lethal—what's the chance of all life on Earth's surface being radiated to oblivion?*

*The probability calculations indicate that Earth must have had heavy doses of cosmic radiation repeatedly—at least once or twice getting doses so massive as to sterilize the surface completely, leaving only deep sea life, protected by thick layers of water, to regenerate land life.*

*Chances are that several much less violent doses of cosmic rays hit the planet—and therein may lie the explanation for the mysterious, sudden disappearance of the dinosaurs, and the rapid mutation-evolution of the mammals!*

*In any case, a reader fed that article back to Poul—and next month's lead novelette is the result. It takes a writer like Poul to take that bare-bones and make a real yarn out of it!*

## THE ANALYTICAL LABORATORY

JUNE 1968

| PLACE | TITLE | AUTHOR | POINTS |
|---|---|---|---|
| 1. | Satan's World | *Poul Anderson* | 1.95 |
| 2. | The Royal Road | *Christopher Anvil* | 2.04 |
| 3. | Duplex | *Verge Foray* | 2.73 |
| 4. | No Shoulder To Cry On | *Hank Davis* | 3.72 |
| 5. | The Mind Reader | *Robert Chilson* | 4.37 |

THE EDITOR



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

# HI DIDDLE DIDDLE

*A new author presents a new explanation for an o!d problem—with the basic proposition that many a word spoken in jest turns out more accurate than careful theories!*

*BY PETER E. ABRESCH*

*Illustrated by Leo Summers*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Paul Lama walked into the office, sailed his blue Air Force cap across the room onto a file cabinet, and crossed over to his desk. Resting on top was a stack of yellow slips. He reached out and leafed through them.

"Colonel Rogueford requests you call as soon as possible—0600."

"Colonel Rogueford requests—A.S.A.P.—0700."

"Rogueford—call—0738."

"Rogueford—0815."

" 'Salad Dressing' is screaming like mad for you. Better call him right away. Jimmi—0830."

Paul dropped the slips back on the desk.

"He seems to be in a hurry to talk to you."

He looked up to see his pixy, two-week secretary come in carrying two cups. She set one on the desk in front of him.

"Oh boy, thanks, Jimmi. I can sure use that," he said to her.

"How was your trip?"

"The same old hectic round." He took the top off his cup and dropped it in the waste basket. "How's it been around here?"

"The same old hectic round," she answered good-naturedly.

Paul sipped his coffee as he watched her slender fingers pry the lid off her cup and raise it to her lips, and watched her stare back at him over the rim with her green, deep green, quite unusual eyes.

She smiled and those same eyes crinkled around the edges. It was contagious. He smiled back. She stretched one finger towards the pile of yellow slips.

"You'd better call him."

Paul picked them up and tossed them into the basket.

"Let him worry a bit."

She shook her head.

"One can really tell you're not regular military. What do you do when you're not on reserve duty?"

"I'm an archeologist," he said sipping his coffee.

"Um-m-m. Very impressive."

The phone rang and Jimmi looked at him with one questioning eyebrow. Paul shrugged his shoulder and nodded. She picked it up and put it to her ear.

"U.F.O., Miss Jones," she said and listened. She brought the phone away and pointed it at him like a gun.

He took a deep breath and grabbed his extension.

"Lama."

"This is Colonel Rogueford," came the voice on the other end. "Where the hell have you been?"

"In Terre Haute, right where you sent me."

"Well, I know that. I mean where the hell have you been since this morning? I've been calling you since oh-six-hundred. Didn't you get my messages?"

"Yes, sir, I got them."

"Then why the hell haven't you called me?"

"Because I only landed an hour ago . . ."



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"You were supposed to come in last night. Anyway, it doesn't make any difference. What does make a difference is that you have a press conference in half an hour."

"Me! Why me?"

"Because you're the only one around. It's no big deal. All you have to do is explain how we investigate youfos and determine what they are."

"But I don't know what's going on," Paul protested. "I won't even have time to get something together to fake it."

"If you had come back last night like you were supposed to instead of staying over and partying it up . . ."

"In Terre Haute?"

". . . And rushing back here at the last minute, then that's your problem."

"But I'm only here on two weeks reserve duty. Can't you get someone on active duty? How about Major Kidwell?"

"I can't find Major Kidwell!" Rogueford shouted. "I can't find anybody!"

"Well, how about yourself, sir."

"Look, Lama, the Secretary of Defense set this up to answer some of the criticism the Air Force has been getting over the youfo program. Now somebody's going to have to give that press conference and you're 'it'."

"Suppose I refuse?"

"Suppose I have you court-martialed? It's about time you reservists realize that when you're on duty, even if it's only two weeks reserve duty, you're subject to the code of military law."

"But I don't have any idea of what's going on."

It was too late. Rogueford had already hung up. Paul slammed his phone back on the cradle.

"Sounds like trouble," Jimmi said.

"I have a press conference in half an hour."

"Not the one the Secretary set up?"

"You know about it?"

"You bet I do. Everyone's been trying to steer wide circles around it."

"Why? All I'm supposed to do is explain how we carry on our investigations."

"Not likely. You'll be facing a dedicated knot of people that have accused the Air Force of knowing a lot more about U.F.O.'s than they're telling. I doubt if they'll be satisfied with just a simple explanation of how the investigations are carried on, especially if Rodger Millner shows up, which he is sure to do."

"Who's Miller?"

"Millner. Rodger Millner, the T.V. commentator. You never heard of him? He wrote a book . . . wait a minute," and she walked over to the bookcase.

"Well, why is he so special?"

"Because the others will only have an article or two in a local paper or magazine, but Millner com-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

mands a large T.V. audience. He'll have a video tape recorder there to get all your actions and everything you say," Jimmi answered, stooping down to look on the lower shelves.

"And he's a professional interviewer," she added. "An expert at twisting his subject's words around. If he can do that, he'll try to build it up enough to give the impression that the Air Force really is holding something back. And what do you think our colonel's career would be worth if that happened to him on a coast-to-coast hookup?"

"So that's why he couldn't find anybody else to give the conference."

"And why he's been trying to call you so desperately. You were probably his last hope."

Paul thoughtfully drained the last of his coffee and threw his cup into the waste basket.

"Ah ha!" Jimmi cried triumphantly as she pulled a book from the rack. " 'U.F.O.'s, Our Visitors from Outer Space,' by Rodger Millner, author, commentator, and T.V. personality."

She walked over and dropped it on the desk in front of him.

"That's who Rodger Millner is!"

Paul picked up the book, read the title, and turned it over to see a fat, round face smiling out from behind a pair of horn-rimmed glasses. Under the picture was a blurb printed in bold red letters.

" 'The fantastic truth,' " he read aloud, " 'about our extraterrestrial visitors . . . we are being observed by superior beings from outer space . . . the secret the Air Force is keeping to prevent nationwide panic.' I'd say he's built up a panic all his own."

"That's what he'll be out to try to prove," Jimmi said, picking her note book up off her desk. "If he can get you to say or infer something to support his thesis, it could mean a big boost in his book sales, but it could also do the Air Force a lot of damage."

Paul looked at the face with the horn-rimmed glasses on the back of the cover.

"I've grown to dislike Mr. Millner already. I've no desire to do anything to aid his book sales. However," he said calmly, "I don't really believe I can do the Air Force much damage. They could always point out that I'm only a two-week reservist and don't know what I'm talking about. You see, that's where the whole thing breaks down. Unlike the rest of them I don't have a career to worry about. In another week I'll just be Paul Lama, civilian. Still," he said following her out the door, "it might be fun to leave them something to remember me by."

Colonel Rufus P. Rogueford stood whistling before his office mirror. He combed and arranged the few long hairs to cover up the maximum amount of his bare head. He licked one finger and patted each eyebrow, then stood back, slightly turning his



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

head for the three-quarter profile, and surveyed the results. Not bad. Not bad at all. Satisfied, he pocketed the comb and looked out the window on the Pentagon courtyard. It was a beautiful sunny day, a bit nippy, perhaps, as befits the fall weather. Brisk would be a better word for it. The phone rang. He reached for it.

"Colonel Rogueford."

"I have Sergeant Maloney on the phone," came the sweet voice of his secretary.

"Oh, very well, Gloria, put him on."

"Sergeant Maloney," he heard the male voice over the phone.

"Maloney, this is Colonel Rogueford. Did you get Mrs. Rogueford on the plane all right?"

"Yes, sir, she's on her way to Florida now."

"Ah, Sergeant, are you sure she's on the plane?"

"Yes, sir. I carried her handbag on myself."

"She couldn't have slipped off?"

"No, sir. I watched the plane taxi out and take off before I left the terminal."

"Fine! Very good! Is the car in my spot on the lot?"

"Yes, sir. All gassed up and ready to go, like you asked."

"Oh, very well. You can take off, Sergeant, I won't be needing you the rest of the day."

Rogueford put down the phone. He rang for his secretary and hastily jumped to his feet for a last-minute inspection in the mirror. The door opened and a small, young, slightly plump girl came in.

"Well, Gloria, you're looking lovely today. Exceptionally lovely."

"Why, thank you, Colonel."

He cleared his throat.

"Ah, Gloria, what would you say if I suggested we take the rest of the day off and hit the Congressional Country Club for a round of golf?"

"I'd say, great!"

"You wouldn't think it presumptuous of an o . . . middle-aged fellow like myself to go out with you?"

"You're not middle-aged, Colonel . . ."

"Call me Rufus."

"Rufus. You know what they say, you're only as old as you think."

"Well, then, why don't you go get your stuff together and we'll get out of here?"

"All right. I'll be ready in five minutes."

The door closed and Rogueford whipped out his comb. *You did it, you sly ol . . . young devil, you.*

He winked at himself in the mirror. His wife gone to visit the children, his house empty, and a date with his secretary to play golf. A few drinks at the bar and you never can tell how these things will turn out.

You never can.

Paul Lama stood alone on the stage of the Pentagon's large briefing room. His eyes searched the small group in front of him and quickly



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

found the fat, round face with the horn-rimmed glasses. Millner had positioned himself where he would be included in the picture taken by the video tape camera, about ten or twenty feet behind him.

Paul checked Jimmi. She was sitting at the side of the stage, her notebook in her hand, her pencil poised, waiting. He began:

"I was asked here today to explain how the Air Force carries on its investigations on Unidentified Flying Objects, U.F.O.'s, or youfos as we call them. This morning I arrived on a plane from Terre Haute where I was part of a team carrying on just such an investigation. So, what I will do is start off by telling you how we handled this particular U.F.O. sighting."

"We received word from Command," he continued, "that a round, cigar-shaped object had been sighted in the sky near Terre Haute. When we arrived we checked with all the farmers in the area to determine who had seen the U.F.O., getting their reactions and descriptions of the object. Those in the area who had not seen it were also asked to give a statement, in order to see if we could establish a pattern whereby those out looking at the sky on one side of a line had seen the U.F.O., while those on the other had not. If we could have done this, and the sun's position had corresponded with it, we would then have evidence that the sighting was a reflection off a plane or a weather balloon."

"You did not find this?" asked a bald-headed man.

"No, not in this case."

"What about the object," Millner spoke up. "Could you tell us what it looked like?"

"Yes, I'd be glad to" Paul answered. "As I said, the U.F.O. was a round, cigar-shaped object with blinking red lights. Twenty farmers saw it, close to dusk, but still bright enough to see it quite clearly. It appeared to be around fifteen miles high and moving northward at a very slow speed till it was lost in the approaching darkness. However, one farmer claims to have seen it later in the night. He said he went out around ten o'clock and saw it land in his pasture, but when he ran towards it the thing took off at a tremendous speed."

"Was the landing investigated?" Millner shot out.

"Yes, it was. He took us out and showed us some large round tracks covering an area of about twenty by forty feet. We took some plaster casts of the impressions, but we really don't expect much from them."

The round face with the horn-rimmed glasses turned slightly for the benefit of the camera.

"What made those tracks?"

"I suppose it could have been anything," Paul said.

"Really, Captain Lama," he said cynically, "You don't expect us to believe that! Isn't it possible they could have been made by something from outer space?"



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"I said they could have been made by anything."

"Yes, that's what you said," Millner snapped, his aggressive personality dominating the conference, "but the eyewitness and the tracks themselves indicate that they were made by an extraterrestrial vehicle!"

"All I can do is give you the facts. How you want to interpret them is up to you."

"But it's a fact that the Air Force is afraid the public will panic if they're told the truth about the U.F.O.'s."

"That's absurd."

"Is it? Then why, with all the evidence we have on U.F.O.'s, with all the sightings and eyewitnesses, with all the photographs, why does the Air Force still try to palm them off as weather balloons and swamp gas?"

Paul looked down at the fat, round face and laughed.

"You have it all neatly wrapped up, don't you? U.F.O.'s are flying saucers with little green men in them. They've come from outer space to study us for their own ulterior motives and the Air Force won't announce it because the American people would panic. That's roughly your stock phrase, isn't it?

"Well," he rushed on, "it's all wet! You think we're withholding information because the country would panic, but it seems to me that just the opposite would happen. Historically nations and people have always banded together in the face of a common enemy and we could use a little banding together right now. It could be the biggest boost to world peace we ever had. You hadn't thought of that, had you?"

Millner opened his mouth, but Paul answered for him.

"No, I thought not! You assume that since we don't have anything like U.F.O.'s that they must be from outer space and since they can build ships that can fly through space they must be more intelligent than we. And the stock reason that they haven't contacted us," he said laughing a bit, "because they are spying on us? Because they are planning to take over the world?"

"How do you know they're not?" Millner screamed. "Why is the idea of spaceships spying on us so funny?"

"Because they're not spaceships —they're animals." Lama screamed back.

It echoed in the large briefing room followed immediately by the slap of a book hitting flat on the floor. Paul turned to see Jimmi, her green eyes open wide, staring at him.

"But that's not possible," Millner said.

"Why not!" Paul jumped on him. "Haven't we some strange evolutions here on Earth? We have fish that live in the depths that have developed their own lighting systems and porpoises that sleep on the run



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

so they can keep coming to the surface for air. And how about the birds? They've learned to pick their feet up off the ground and fly. Bats too, for that matter, and they even have their own radar system. So why is it so impossible. Look at the bumblebee. Science has long ago proven it can't fly, but he goes on defying gravity anyway. And the next logical step from flying in the air is flying in space."

He had their complete attention.

"Originally," he went on, "they lived on a small planet that was too small to hold onto its atmosphere and it drifted away, much like our own moon. As the air left they developed a system for extracting the gases they needed for existence from that trapped in rocks and minerals, literally eating rocks, and getting their energy from absorbed cosmic rays. Then the world they lived on blew apart leaving an asteroid belt in its wake, like the Planetoids between the orbits of Mars and Jupiter. Some of the animals survived. They lived on the remains of their planet and, as food became scarce, developed a means of locomotion, probably an electromagnetic field, in order to survive. Ever since they've been grazing the fields of space. What we have seen are a few strays that have drifted into our atmosphere looking for food. And why haven't they tried to contact us? Because they have the intelligence of a bovine! In short, U.F.O.'s are spacecows," he said and walked towards the side of the stage.

The small group started yelling questions at him, but Paul stopped and held up his hand for silence.

"No more questions. I've already said far more than I should have."

But they ignored him and kept firing questions at him as he took the still wide-eyed Jimmi by the arm and led her out of the briefing room, down the hall, and into the elevator. They tried to follow, but he turned to face them, blocking the entrance.

"All right," Paul said. "I'll answer a few more questions."

"Wait," pleaded Millner, "wait till I get the camera set up."

Grudgingly they moved back to make a path and while they did Paul reached over to push the "close door" button. Then he smilingly watched as the doors closed on their startled faces.

"Well, what did you think of my first press conference?" he asked turning to Jimmi.

She didn't answer, but reached out and pressed the "stop" button.

"Hey, what are you doing?"

"You've got to go back up there and tell them it was all a joke."

"I'm not going back up there. They wanted me to tell them what U.F.O.'s were and I told them," he said, restarting the elevator.

"Then it wasn't all a joke?"

"Oh, come on Jimmi. You couldn't believe that garbage."

"But they did believe it! Don't you see that? If you don't go back



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

up there it will be all over the news in ten minutes."

"Not quite," he said taking her arm and leading her out of the elevator towards the main entrance. "In ten minutes they'll be on the phone talking to Rogueford. He'll simply tell them that I'm an irresponsible reservist who was pulling their leg. In the end they'll leave red in the face, but quiet in the mouth. And Rogueford will be angry as hell for having to face them after all."

"But suppose they don't check with him? Suppose they put it straight on the air?"

Paul laughed as he held the door open for her.

"Jimmi, you are a worrier. They're not going to put out a fantastic story like that without checking with somebody. But even if they did, it would be no great disaster, except that Rogueford would really be mad. He'd have to hold a press conference to explain our little hoax, and he'd deserve it."

"But suppose . . . hey, where are we going?" she asked stopping and pulling him up short.

"I'm going to take you out for a few drinks and a leisurely lunch."

"Paul, be serious. You opened a Pandora's box back there and if you don't go back and close it up there's no telling what will escape."

"Not me. Rogueford's already had a chance to hear about the press conference and I'm not facing him till he's had a chance to cool off."

"But suppose . . . just suppose . . ."

"But suppose I starve to death. It's ten thirty," he said looking at his watch, "and I've been running around since the crack of dawn. I'm hungry. I'm going to get something to eat. I've earned a long lunch hour. Now are you going to be a nice girl and let me ply you with food and booze or not?"

She raised her hands and let them drop helplessly by her sides.

"All right. Why not! After all, it's your funeral, not mine."

Senator Peters stormed out of the Senate Chambers and into his office. He slammed the door behind him, causing the staff to shudder.

"Get them on the phone," he stammered as he strode across the room and into his private office.

He didn't have to tell them who to get. They knew. His young receptionist took the phone and tried to dial, but she was too nervous and kept goofing it up. Foresmyth, Peters' administrative aid, pried the phone out of her hand and dailed it. There was a busy signal. He dialed it again. Still busy.

"What's happening out there?" bellowed the voice from the inner office.

"I'm trying, Senator, but I keep getting a busy signal."

"Then try the office next door and tell them to get him. Or get the office next to that, try the guard at the front door if you have to, but get him!"



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Yes, sir," answered Foresmyth and started dialing till at last he got one to ring.

"Captain Bladensberg, Supply," came the voice over the instrument.

"This is Senator Peters' office. We can't get through to the Secretary of Defense. How about running up and getting him to the phone?"

"Me?" came the incredulous reply. "I'm Supply. You must have the wrong number."

"No, we don't. Now get him and hurry."

"But I can't go to the Secretary and tell him to come to my phone. I'm only a captain. Can't you find a major?"

"No, we can't find a major. We can't find anybody."

"But I'm only a captain. Of Supply."

"Damn it, the Senator wants him. Go get him."

"Suppose I send you over a brand-new executive desk instead?"

"You can take your desk . . ."

"This is Senator Peters," cut in the senator's gruff voice, "if you don't get off your tail and get the Secretary on the phone in five minutes . . . five minutes!" he screamed, "you'll find you've volunteered for five years duty at the North Pole Weather Station."

"Yes, sir," came the meek reply. "I'll get on it right away, sir."

"Foresmyth, time that call."

Silence settled on the office. Tension gripped them all and continued to build till it threatened to burst forth from the inner office.

The phone rang! Everyone jumped. Foresmyth grabbed the phone, talked into it, and called into the other room.

"He's on the other line, Senator."

The senator picked up the phone and brought it close to his mouth. Then he screamed into it.

"This is Peters. Why wasn't I informed? I'm the Chairman of the Senate Armed Forces Committee. I have a right to know.

"I'm not in the habit, Mr. Secretary, of hearing classified information from a page on the floor of the Senate. I should have been told about the spacecows!"

"Sir," came the meek reply, "this is me again . . . Captain you know who."

"You?"

"Yes, sir. The Secretary's on his way to the White House. Can we forget about the five years at the Weather Station now?"

"Ten years," he hollered, "ten yearstenyearstenyears. You got that, Captain? What's your name?"

"Don't you remember?"

"Your name? What's your name?"

"Bye."

"Don't you dare hang. . . ."

He turned to the door.

"Get me the White House on the phone."

The call was put through. There was a pause.

"We have them, Senator."



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"This is Senator Peters," he said into the phone. "I want to speak to the President."

He waited while the White House operators went through the procedures of getting the President to the phone and then he heard the familiar voice.

"This is the President."

"Mr. President, this is Senator Peters. I want to know why wasn't I informed about the spacecows?"

"You think you got problems? Senator, I'm trying to find out why I wasn't informed?"

"You, Mr. President? You didn't know?"

"No. I heard it from the man who takes care of my dogs."

"Well, that puts a new light on it."

"Wait, I'm not finished. Not only didn't I know about it, but the Secretary's on his way over here from the Pentagon and he didn't know about it. This guy Lama disappeared right after the press conference, we can't find his commanding officer, and everyone else working on the project is off on leave. And to make it worse every country in the world is jamming our switchboards trying to find out about the spacecows. I can't tell them I don't know. I'm the President."

"I'm sorry to have bothered you, Mr. President."

Senator Peters put down the phone and stared blankly ahead. He felt like he had just found out the Statue of Liberty was an unwed mother.

"Get my car," he called out. He couldn't stay here. The press would be along to find out what he knew and, like the President, he couldn't admit he didn't know. It certainly wouldn't look good if it got back to the voters.

The senator left his office and started down the hall, but he stopped in midstride when the elevator doors opened and out came a rush of reporters. He turned and ran for the near staircase. There was a shout behind him. He did not falter. Down the stairs he went, desperately trying to keep the younger footsteps from gaining on him. On the first floor he pushed open the door and raced down the Capitol steps towards his car, but age was not to be denied. They caught up with him.

"What about the spacecows, Senator?"

"No comment," he puffed.

"Was there a breach of security, Senator?"

"No comment."

"The people back home want to know, Senator . . ."

He snapped his head around at the phrase.

"What are you going to do to him if he did give out classified information?"

"We'll hang the . . ."

He cut himself short as he caught sight of the microphone and television camera.

"We'll hang him," he finished, turning to his car.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Senator, how about telling us if you knew about the spacecows before the story broke?"

"No comment."

"You mean," persisted the man, "you're going to tell the voters that as Chairman of the Armed Services Committee you didn't even know about them?"

"I didn't say that," he snapped angrily and got into the car.

But the man held onto the door.

"That's what you implied, Senator. Did you know about the spacecows or not?"

The senator grabbed the door and tried to pull it shut, but the man held on. Peters looked up and yelled at him.

"Of course I did!" and he pulled the door shut as the car sped away nearly knocking the reporter to the ground.

"Hello."

"I want to speak to the red dog."

"The one with blue tail?"

"And the yellow eyes."

"This Belenski."

"This is Boris. Just a minute."

"Belenski, this is Ambassador Kalinkov. Why wasn't I informed?"

"Don't know, Comrade. Just hear it ourselves."

"What do you think we are paying you for? You know who I heard it from? The doorman. Can you imagine that? Suppose I should tell that to Moscow?"

"Is looking into it, Comrade. Had no report of spacecow before."

"I want to know all about them. I don't care what you have to do or what you have to pay—within reason. If we don't have the answers soon, we'll end up making ice cubes in Siberia."

"O.K. I find out. Don't worry."

The "Raincoat" had been a pleasure craft sailing out of Chicago. Men of questionable character took women of a questionable business out on parties of a questionable nature until the boat's owner contracted a questionable malady and passed away quite suddenly one St. Valentine's day. The second owner brought it to New York City where he went diving—out a fourteenth story window on Wall Street. Then the craft passed through an endless line of hands, a Dewey supporter, a Cuban real-estate agent, an Edsel dealer, as it worked its way down the East coast to come to rest at the end of the Main Avenue dock in Washington's Potomac River.

The boat's present owner, Samuel Mudd, bought it with the idea of chartering it out to sightseeing groups, but when it was untied from the dock the "Raincoat" gracefully settled into the mud and Mudd was in trouble. The port authorities refused to let him leave it where it was because it was a hazard to navigation, but he couldn't sail it because it wouldn't sail, and he still had to pay a hundred dollars a month dock fee. So, always thinking, Mudd managed to winch the



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Raincoat" from the mud and tie it once again firmly to the pier.

Then he tried to sell it.

Then he tried to give it away.

Then, still thinking, he redecorated it, putting fish tanks in the walls of the main saloon, a carpet on the floor, booths and tables and a bar at one end. At last, with as much fanfare as he could squeeze out of five hundred dollars, and himself as manager-bartender, Mudd opened the "Chez Raincoat." The manager-bartender had fifty customers the first week. Forty-five the next.

The place was empty when Paul and Jimmi walked in. Mudd, the manager-bartender looked up from the sink where he was busy washing two glasses.

"Take any seat," he called as he shook the suds off his hands and came around the bar. "It's a little early. The waitresses ain't showed up yet."

They sat in a booth beside a large tank of black angel fish, Paul sitting across from Jimmi, facing the bar.

"What will you have?" he asked her.

"I'll have a daiquiri," she answered looking up to the bartender who wrote on a small pad.

"And I'll have a vodka martini," Paul said. "Do you have a menu?"

"The cook ain't in either," the bartender said walking back to the bar.

"Well, it looks like you'll have to starve a bit longer."

"Yes, but at least the martini will deaden the pangs."

The bartender called from the end of the room.

"Say, you folks mind if I play the T.V.?"

"No, not at all," Paul answered. "Go right ahead."

The bartender switched on the small portable set. The picture tube glowed, and came to life, bringing a face into focus. The face was familiar to Paul. He had seen it not long ago. Suddenly he jumped to his feet.

"Look! It's me!"

He ran to the bar, followed by Jimmi, the bartender looking up as they came.

"Hey," he shouted, "you're right. It is . . ."

"Quiet," Paul snapped, "I want to hear what they're saying."

He reached over and turned up the volume.

". . . SECRET OF THE U.F.O.'s WAS SOLVED THIS MORNING WHEN AIR FORCE CAPTAIN PAUL LAMA LEAKED OUT THE NEWS AT A PRESS CONFERENCE. THEY ARE NOT FLYING SAUCERS, LAMA SAID, BUT ANIMALS . . ."

Paul's image came to life.

"IN SHORT, U.F.O.'s ARE SPACECOWS."

The image disappeared and the announcer came onto the scene.

"WE TRIED TO GET SOME CONFIRMATION OF LAMA'S STATEMENT, BUT COLONEL ROGUEFORD, LAMA'S SUPE-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

RIOR OFFICER, WAS NOT AVAILABLE FOR COMMENT NOR WAS ANY OTHER OFFICER IN THE U.F.O. PROJECT. HOWEVER, THERE IS LITTLE DOUBT THAT THE ANNOUNCEMENT HAS CAUGHT THE AIR FORCE, THE DEFENSE DEPARTMENT, AND THE WHITE HOUSE BY COMPLETE SURPRISE."

"The White House," Paul said turning to Jimmi, "the real White House?"

"I knew there would be trouble if we didn't go back."

"Where is Rogueford?"

". . . . AIR FORCE HAS THROWN THE THICK WRAPS OF SECRECY AROUND WHAT HAS PROBABLY BEEN THE BIGGEST SECURITY BREACH OF ALL TIMES. IF ANYBODY AT THE PENTAGON KNOWS ANYTHING ABOUT THE SPACECOWS, THEY'RE NOT TALKING. MEANWHILE, THE SEARCH IS ON FOR THE MAN WHO STARTED IT ALL, CAPTAIN PAUL LAMA, THE TWO-WEEK RESERVIST WHO HAS MYSTERIOUSLY DISAPPEARED FROM THE WASHINGTON SCENE. DOES THE AIR FORCE HAVE HIM STASHED AWAY SOMEWHERE?"

"Hey," piped up the bartender, "you're not stashed away. You're right here. Why don't we call them and tell them you're here?"

"Be quiet," ordered Paul. "And where is my drink?"

Mudd passed the two drinks across the bar as the announcer pressed on.

". . . . WE TRIED TO GET SENATOR PETERS, CHAIRMAN OF THE SENATE ARMED SERVICES COMMITTEE, TO SHED SOME LIGHT ON LAMA'S REVELATION . . ."

The announcer's voice continued, but his face disappeared to be replaced by the image of a portly man racing down the Capitol's steps being chased by a group of younger men. The image switched again to a close-up of the man.

". . . BUT THE SENATOR REFUSED TO GIVE US ANY REAL INFORMATION EXCEPT FOR THE VERY IMPORTANT STATEMENT THAT HE DID INDEED KNOW ABOUT OUR SPACE VISITORS AND TO SAY WHAT HE THOUGHT WOULD HAPPEN TO PAUL LAMA."

The voice of the senator came over the speaker.

"WE'LL HANG THE . . ." and he caught himself, smiled broadly and went on, "WE'LL HANG HIM!"

There was a jump in the film and an unseen voice was heard.

"DID YOU KNOW ABOUT THE SPACECOWS, OR NOT?"

"OF COURSE I DID," the senator said emphatically and slammed the door as his car drove away.

"Now why did he say that?" asked



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Paul jumping nervously to his feet. "He's only going to make himself look silly when Rogueford holds his press conference."

"I'd say that Rogueford might have a hard time getting anyone to believe him now," Jimmi said turning from the set.

"I can't believe that. Look," he said turning to the bartender and pointing to the television, "all that is the bunk. You don't believe it, do you?"

"You know, it's a funny thing. Most people wouldn't believe nothing crazy like that, but I would. Like I was telling my wife the other day, there are bound to be a lot of weird stuff in this universe when you stop to think how big it is."

"Now do you see?" Jimmi asked.

"But it's all so impossible."

"This morning," Mudd said, "it was a security blab, huh?"

"No, it's something I made up out of my head. It doesn't exist."

"Oh, I see. I get it," said the bartender shaking his head knowingly.

"You do?"

"Sure," and he poked Paul with his elbow in a familiar way. "Mums the word."

"What!"

"Sure. I was in the last war, the real war, double 'U' double 'U' two. There was a lot of stuff I couldn't talk about then either. I remember one time in France . . ."

"No! You don't understand!" Paul protested. "There really are no spacecows."

"You're right," the bartender said touching Paul's shoulder with the back of his hand. "I agree with you." Then he screwed up his face in an exaggerated wink. "Like I was telling you, there was this time in France . . ."

Jimmi interrupted him as she turned to Paul.

"Don't you think we ought to get back to the Pentagon?"

"Are you kidding? You heard Senator Peters. I've got to wait till Rogueford, or somebody, makes a statement and things have a chance to die down."

"Hey," the bartender cut in "how did you find out about those spacecows anyway?"

"I thought you told me you didn't believe in them?"

"Yeah," he said innocently, "I don't." And then leaned eagerly across the bar. "But just between us, how did you find out?"

Paul shook his head helplessly, and then lowered his voice to a confidential tone.

"We captured one and held it three days before it got away."

"Yeah," the bartender's eyes were wide open. "That's terrific! What did it look like?"

"Big and round, like a cigar. We couldn't get close to him because his stomach is like a big furnace, one great big fire to melt all those rocks he eats, and the temperature of his skin is about six-hundred degrees."

"Boy, that's terrific."

"It has great smoldering eyes and



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

it breathed fire. In fact, that's how it escaped. It used its breath to melt the steel cage we had him trapped in."

"Yeah? That's terrific. You know, I'll bet that's where those old dragon stories in England came from. I'll bet it was a herd of space-cows."

"Could be," said Paul finishing his drink. "How about it, Jimmi? We better get out of here."

She drained her glass and Paul dropped a five dollar bill on the bar, but the bartender pushed it back towards him.

"Nope, the drinks are on me. It was worth it just to get the story first hand. Besides, this place will be jumping when everyone finds out you were here."

"I thought mum was the word," Paul said. "I wouldn't have told you everything if I had known you were going to blab it all over."

"I won't blab. Not me. I was just going to tell them you were here. That's all. Not what you said. Can't I just tell them you were here? It would be good for business."

"I thought you would keep your mouth shut, like they did in double 'U' double 'U' two, but now"—he shrugged his shoulder and shook his head—"I suppose if someone comes looking for me now . . ."

"You!" snapped the bartender setting his jaw. "I never saw you in my life. Don't forget, I know how to put certain things right out of my mind. I remember in the last war, I was in France at the time, see, and . . ."

They left the bartender telling his story to himself as Paul picked up his blue Air Force cap and held the door for Jimmi. Outside he put it on and they walked down the gangway to the dock.

"I'll get you a cab."

"Then you're not going back?" she asked as they walked down the pier.

"No, I can't. If I go back now, while the press is still all over the place, there will be a lot of pressure to court-martial me. Probably give me twenty years. But tomorrow, after all this has been debunked and laughed at, everyone will have cooled down and the most they'll do is kick me out of the reserves. And I could care less about that."

"But everyone's looking for you. Where will you go?"

"I don't know yet. I don't think I'd better go back to my hotel room, but I can't go walking around in this conspicuous uniform either. I'll figure something out.

Jimmi opened her purse and fished through it.

"I'll give you the key to my apartment."

"No, I've got you into this enough. If you want to help you can get in touch with Rogueford and make sure he knows this is all a joke. Tell him I don't know that anyone's looking for me. Tell him I was going somewhere. Shopping," he said hailing a cab from the curb. "No.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Tell him I've gone to a movie. It will give me a better excuse."

"Suppose they don't believe Rogueford."

"They have the whole Air Force. I'm just a two-week reservist. Who is going to believe me over the U.S. Air Force?"

He held the door open for her.

"I hope you're right, Paul," she said, staring off in the distance. "For your sake I hope you're right."

She slipped into the taxi and turned to him.

"Keep in touch with me. Promise me that. Call me if you need help."

"All right, I promise."

He closed the door, then leaned in the open window and kissed her warmly. It was an impulse, catching them both a little by surprise, but not unpleasantly.

"Take care, Paul."

He smiled and winked at her.

The taxi drove off down the street.

Colonel Rogueford drove into his reserved space on the Pentagon parking lot and turned off the engine. He glanced at the girl next to him, sound asleep, slumped against the door. It would take a miracle, a virtual miracle, to get her up to the office without being seen. If his wife ever found out about this . . . Suddenly his jaw set, he gritted his teeth. He had been in impossible situations before and his old military training had always pulled him through. Why not one more time?

He climbed out of the car and looked around. No one was in sight. So far, so good. He walked stealthily around the car, gave the lot another quick once over, and pulled open the door, catching the girl by her armpits to keep her from falling to the ground.

"Gloria," he said pulling her to her feet. "Gloria, wake up."

She looked up at him through two small, glassy eyes.

"Oh, hi there," she sang out.

"Straighten up, Gloria," he pleaded. "Suppose someone should see us? I'm in enough trouble already."

"Why don't we go home," she purred putting her arms around his neck.

He glanced nervously around.

"Not now, not now! Be a good girl and I'll take you home later."

"If I was a good girl, you couldn't take me home later," she started giggling.

"Stop it. Suppose someone should hear you?"

"You're right, got to stop. Got to straighten up. Got to see the Secretary of Defense."

"No! I'm the one who has to see the Secretary. You've got to go to the office and keep out of sight."

"Got'cha!"

He shook his head helplessly. It would take a miracle.

"Look, just stand here. Can you do that? And I'll get your purse."

Purse? It was a bag, big, closely resembling the old feed bags of the



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

horse-and-buggy days. And it was heavy. He picked it up off the car seat, slung the strap over his shoulder, and turned to the girl.

But she was no longer standing! She had slumped to the ground.

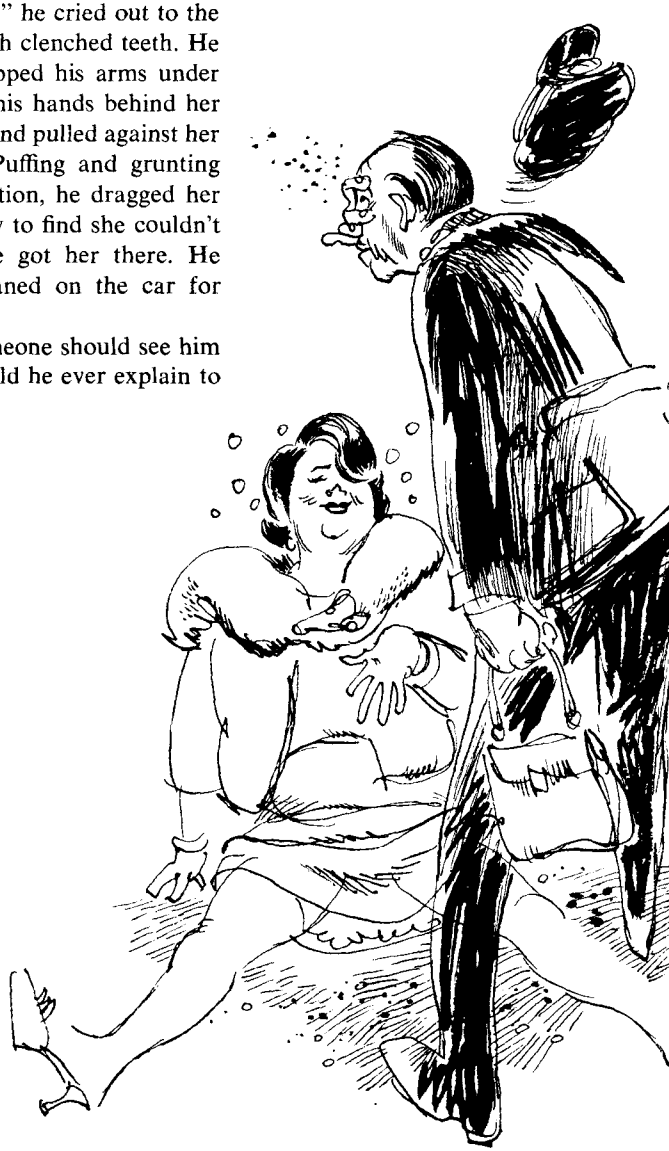
"Oh, HELL!" he cried out to the heavens through clenched teeth. He bent down, slipped his arms under hers, clasping his hands behind her in a bear hug, and pulled against her dead weight. Puffing and grunting under the exertion, he dragged her to her feet only to find she couldn't stand when he got her there. He turned and leaned on the car for support.

Suppose someone should see him now? How could he ever explain to his wife that he had just been holding her up and not making love?

"Gloria, stand up!"

And to his surprise—she did.

"There, see," he said wiping the





LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

sweat off his forehead, "I knew you could do it. Now all we have to do is walk across the lot, into the building, into the elevator, down the hall, and into our office."

The girl's eyes turned up and she slumped back to the ground.

"Aw, Gloria," and he picked her up again.

"Come on, now, it won't be so bad," he said, trying to encourage himself as much as the girl. "We'll take it in stages like a military operation. Our first objective will be the elevator. I want you to keep saying to yourself, 'I'm going to walk straight into the building and into the elevator'."

"I'm going to walk straight into the building and into the elevator."

"That's a girl."

With his left arm around her, supporting her, and her handbag hanging from his right shoulder, they set out, staggered a few feet, stopped, regained their balance, and set out anew, gradually making their way across the lot, up the stairs, and into the building. Miraculously they had encountered no one. The halls were empty.

"There," he gasped, "that wasn't so bad."

"I think I'm going to be sick."

"Aw, Gloria, not now!"

The strap broke and the handbag crashed to the floor spilling out lipsticks, compact case, and two-hundred pennies.

From down the hall came the sound of footsteps.

He looked furtively around for a place to hide. Ping—two doors opened on an empty elevator. He snatched the bag, leaving the litter spewed on the floor, and half dragged, half carried the girl into it. He propped her in the corner and reached for the button, but she started slipping to the floor and he was forced to grab her.

He heard conversation and reached out again. Again she started to slip and he had to abandon the second attempt.

Someone shouted.

"Hey, hold the elevator."

Rogueford fixed the button in his mind, let go of the girl, raced to the panel and smashed the button, and raced back to catch the girl halfway to the floor.

There was the sound of running footsteps. Then nothing.

The doors had closed. The elevator started to move. He had made it. Only the few feet from the elevator to his office remained. They could fake something for that distance. The miracle had happened. What could go wrong now?

"Good girl, Gloria. All we have to do is walk to the office. Keep saying to yourself, 'I'm going to walk straight into the office.' "

The girl's mouth opened mechanically.

"I'm going to get sick."

"No, not now!"

The elevator stopped. He took hold of the girl and faced the doors. They opened.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

And he stared, horrified, at the lights, television cameras, men with notebooks, and one pair of horn-rimmed glasses that peered in at him.

"The eyes of America are on you, Colonel Rogueford, what about the spacecows."

"Good day, this is the Office of the Secretary of State."

"This is Ambassador Kalinkov. Please let me speak to the Secretary."

"I'll ring him, Mr. Ambassador, but I don't believe he's in."

"Please, Miss, I know he's in."

"Yes, sir."

"Hello."

"Ah, Mr. Secretary. It is good to hear your voice."

"Thank you, Mr. Ambassador. How are you today."

"Fine, thank you, Fine, but I have a most urgent business to discuss. In view of the fact that everything happening in space will affect the world as a whole, the Soviet Union demands that all the knowledge of the spacecows be shared with the countries of the world."

"Yes, Mr. Ambassador, I'll relay your message to the President."

"Of course, in the interests of peace, the Soviet Union is always willing to compromise. Since the responsibility of protecting the world from the danger of outer space, be they spacecows or otherwise, rests mainly on the shoulders of our two great nations, perhaps only we should share this highly sensitive information."

"Yes, Mr. Ambassador, you have a point. I will relay it to the President."

"One more thing, Mr. Secretary. Tell him that during World War Two we were comrades-in-arms. One never knows what unseen dangers will make us comrades-in-arms again."

"Yes, Mr. Ambassador, thank you for calling. I'll mention that to the President."

Rodger Millner stared out from behind his horn-rimmed glasses as he watched the second hand sweep around on the clock. He looked quickly to the monitor to check his appearance, his hair, clothes, make-up, the image he projected on the screen. Nervously he kept clearing his throat waiting for the last second to roll by. At last came the ten-second signal. He folded his hands on the desk before him. The clock ticked down and one of the stage men pointed a finger at him. He was on the air.

"Good day, America, this is Rodger Millner, trying to keep you up with the fast breaking story of the spacecows. All America has been asking the big question, the same question I've been asking myself a hundred times over, why has the Air Force kept the spacecow a secret. What could be so sensitive about a cow, spacecow or otherwise, that could warrant being labeled



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Top Secret? It is enough to make this reporter wonder if, indeed, the Pentagon's security structure isn't designed primarily for hiding snafus and only secondarily for keeping our secrets from the enemy.

"Meanwhile, Captain Paul Lama, the man talked into admitting the existence of the spacecows by this reporter, is still missing. No one has seen him. No one knows where he is. Officially. The Pentagon says they have no word of him and the Air Force claims they are desperately looking for him, but if they really are they need look only as far as Governor's Island in New York Harbor."

Millner waited till the monitor shifted to an aerial shot of New York Harbor with its famous skyline and closed in on an island with black-topped roads, green parade fields, red rooftops, and a round, brick fort.

"This is Governor's Island. It was on a ferryboat destined for this island that a person reportedly to be Paul Lama, flanked by two Air Police, was last seen."

The monitor zoomed in on the fort with its small, round cannons.

"It was here, in this fort, built long years ago to protect the harbor, that the Nazi sabateurs, put on shore by submarine in the early nineteen forties, were held while awaiting trial. Is this bastion once again holding a prisoner, not one who is a danger to our country, but one who is truly a danger to the whole security structure that seems to perpetuate the incompetence of our military hierarchy? One wonders, America. One wonders."

He watched his face flash back onto the monitor.

"The head of the American Biological Association, Emile Snodgrass, has wired the President requesting that one of the spacecows be shot down and dissected. Said Snodgrass, 'This could yield information that could leap this country forward one hundred years and greatly help our space race to the Moon.' The White House has not commented.

"While we have not been able to locate Paul Lama, we were finally able to catch up with Colonel Rufus Rogueford, Captain Lama's commanding officer. He was not available this morning when the spacecow story broke, due to pressing business with his secretary at the Congressional Country Club, but this reporter was on hand when he arrived and, while he did not shed any light on the spacecows, it was, ah, something quite unusual in the way of interviews."

His image faded from the monitor and he sat back to watch the show as the image of a man, in an Air Force uniform, replaced him.

The man was staring out of an elevator car at the television camera, mouth wide open, struggling to hold up a slightly, plump, obviously drunk, young woman. The sound



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

track came on and voices started hurling questions at him.

"COLONEL, DID YOU KNOW THAT CAPTAIN LAMA WAS GOING TO BREAK THE NEWS OF THE SPACECOWS THIS MORNING?"

"NO COMMENT."

"WHAT ABOUT THIS MORNING, COLONEL, WAS IT A SECURITY BREACH?"

"NO COMMENT!"

"WE JUST HAD A LITTLE DRINKY WINKY."

"DON'T LISTEN TO HER! THE GIRL IS SICK. PLEASE LET US THROUGH."

"WHAT ABOUT THE SPACECOWS? HOW LONG HAS THE AIR FORCE KNOWN ABOUT THEM?"

"I TOLD YOU, I HAVE NOTHING TO SAY."

"I DO."

"NO SHE DOESN'T."

"IS SHE YOUR WIFE?"

"WHY DON'T YOU LET HER SPEAK?"

"SHE HAS NOTHING TO SAY. YOU DON'T HAVE ANYTHING TO SAY, *DO YOU? SEE, SHE* HAS NOTHING TO SAY."

"THEN WHY DON'T YOU TAKE YOUR HAND OFF HER MOUTH?"

"COLONEL, IS SHE YOUR WIFE?"

"NOT NOW."

"I CAN'T HEAR YOU, COLONEL."

"I SAID, NO COMMENT."

"LOOK OUT, THE GIRL IS FALLING."

"OH."

"WHAT'S THE MATTER WITH HER?"

"SHE'S NOT FEELING WELL. I'VE GOT TO GET THROUGH."

"SHE LOOKS LIKE SHE'S BOMBED."

"NO, SHE'S JUST NOT FEELING WELL."

"I'M FEELING SILLY GILLY."

"NO SHE'S NOT. DON'T BELIEVE HER."

"CAN I HAVE ANOTHER DRINKY WINKY?"

"DON'T LISTEN TO HER. SHE'S DELIRIOUS. LET US THROUGH. PLEASE LET US THROUGH."

"DID HE TELL YOU ANYTHING THIS MORNING, MISS?"

"OLD RUFUS?"

"CALL ME 'COLONEL ROGUEFORD'."

"YES, HE DID."

"NO, I DIDN'T."

"WHAT DID HE SAY?"

"DON'T TELL THEM ANYTHING."

"HE SAID THAT . . ."

"NO, I DIDN'T."

". . . HE WAS GOING TO TAKE ME HOME . . ."

"NO, I DIDN'T!"

". . . AND SHOW ME HIS MAGIC FINGERS."

"NO, I DID NOT! BESIDES, IT'S A MACHINE."



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"LOOK OUT, THEY'RE BOTH FALLING."

"IT'S A MACHINE. TELL THEM IT'S A MACHINE!"

The image switched back to Millner. He smiled.

"Well, like I promised, America, it was quite unusual. And now a word from Hairtone."

Senator Peters opened the door and walked into the office of the Secretary of Defense.

"Mister Secretary," he said, "what's going on?"

"Well, Senator Peters, it's nice to see you," began the Secretary.

"Forget it. Just tell me what's going on," he cut in and turned to look at the Air Force officer standing there. "Is this Lama?"

"No, Senator, this is Colonel Rogueford, Lama's commanding officer."

"Oh," and he walked up to study him more closely. "Why so it is. Saw your little act on television."

The colonel smiled sickly.

"Can you think of anything you didn't do to make a fool of yourself?" Peters said and turned to the Secretary. "Don't tell me he's the only one who knows about the spacecows?"

"No, I won't tell you that. He doesn't know anything either."

"He doesn't!"

The senator turned on the hapless colonel.

"How come you don't know what's going on?"

"I'm sorry, Senator," Rogueford pleaded, "but I had no idea Lama was going to tell them about the spacecows. I didn't even know about them myself."

"Lama is one of your men, isn't he?"

"Yes, sir, but . . ."

"I come all the way over here from Capitol Hill and all you can tell me is you don't know what's going on. I suggest you stay out of the country club bars, Colonel, and stay at your desk. You just might find out what is going on!"

"Yes, sir."

The senator sat down in one of the leather chairs.

"Well, Mr. Secretary, what do we do now? All the world knows about the spacecows except us."

The phone rang. The Secretary reached across his desk and picked it up.

"Hello," he said into it.

"The Secretary of State is on the line, Mr. Secretary. I tried to tell him you weren't in, but he said he knew you were."

"That's all right. Put him on," he said and waited for the click of the new connection. "Hi!"

"Don't give me that 'hi' stuff. What do you mean by trying to give me the brush-off?"

"It was a mistake, an over-zealous assistant," he said. "You know I'm always in to you."

"The trouble is you don't realize that every diplomat is on my back trying to find out about the space-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

cows. I'm afraid to step out the door."

"I can understand your difficulty."

"The hell you can. What have you found out?"

"Nothing so far."

"Nothing? Are you holding anything back from me? I can always call the Chief."

"Don't do that. He's been after me all morning. I'll call you the minute I find out anything."

He hung up the phone and pointed to it.

"State. He's up to his ears in diplomats. Everyone wants to know about the spacecows."

"So do I," Peters said. "What about Captain Lama? Anyone know where he is?"

The Secretary shrugged his shoulders. Peters turned to the colonel. Rogueford tried to smile. It didn't come off.

"Don't tell me," Peters said. "You don't know where he is, right?"

Rogueford shook his head.

"I've asked all around, Senator, and no one's seen him. We even have the Air Police out looking for him."

"You sure the Army doesn't have him stashed away on Governor's Island?"

"Yes, sir. I've already called up there."

"What did they say?"

"Well, sir," Rogueford answered, "they didn't say anything. They just laughed."

"Of course there's the other possibility," said the Secretary. "He might have gone over."

"Gone over? Where?" asked the senator. Then his face brightened, "You mean the other side?"

"It all fits in," snapped Rogueford, eager to turn the attention from himself. "That's why he never let us know about the spacecows. I bet he's been working for them all along."

"Don't be absurd, Colonel, he's only been on active duty for a week," replied the Secretary.

Peters ran his hand over his chin.

"What have you done about it?" he asked.

"About Lama? We've notified the F.B.I. and we've asked the C.I.A. to alert their agents in case he slips out of the country. Right now there's a pretty good manhunt going on to try to find him."

The intercom on the Secretary's desk buzzed. He reached over and depressed the Speak button.

"Yes?"

"There's a Miss Jones here, Paul Lama's secretary. She says she has some information."

"Send her right in."

The Secretary rose and greeted the pretty green-eyed girl at the door.

"Miss Jones, this is Senator Peters, and I think you've met Colonel Rogueford."

"Yes, I have," Jimmi said.

The senator cleared his throat.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Pardon me for being so straight forward," he said to her, "but you said you had some information. Do you know where Lama is?"

"No, I haven't seen him since lunch time, but I was with him at the press conference this morning."

"Well, did he tell you anything about the spacecows? Did he tell you how he found out about them?"

"Senator," Jimmi answered, "he didn't find out about the spacecows. He made them up!"

The three men stared blankly at one another.

"Now, let's take this real slow," Peters said. "What did you say about the spacecows?"

"They're not real. They don't exist. Paul . . . Captain Lama that is, made them up."

"But what about the facts he used to back them up?" asked the Secretary.

"He made them up, too."

"I can't believe it," Rogueford said. "Everything fell so neatly into place. Are you sure he made them up?"

"Why do you think no one has ever heard about the spacecows before? Don't you think that if something as revolutionary as this happened the whole place would know it? Before this morning even the word 'spacecow' didn't exist."

Senator Peters let out a long whistle.

"The press is going to have a field day with this."

"What I can't understand," the Secretary put in, "is why he did it?"

"Well, I think he did it as a joke."

"A joke," snapped Colonel Rogueford. "That's a hell of a joke. He'll see how funny it is in front of a court-martial."

"But he didn't think anyone would believe it. It was just too fantastic. And, also, he is only a two-week reservist. He was positive no one would take his statement seriously without confirmation from you and he knew you'd deny it, but he didn't realize that you had taken off and there was no one else around."

"Colonel," Senator Peters said sharply, "you could have avoided a peck of trouble if you had stayed at your desk today."

The Secretary picked up the phone.

"That's it, then? I'd better give State a call and let them in on it."

"What about the press?" asked Jimmi. "You've got to make them realize that there really are no spacecows."

"Rougeford," the Secretary said, putting his hand over the mouthpiece, "set up a press conference and break the news."

"I just hope they believe him," Jimmi put in. "After you said you knew about the spacecows this morning, Senator, I think they'll be hard to convince."

"I didn't say I knew about the spacecows. I said I knew about the spacecow story. I'll explain that I knew they didn't exist all along, but



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

*that I felt I owed it to the taxpayers* to check it out."

"Hello," said the Secretary into the phone. "It's me. We found out about the spacecows."

"It's about time," came the voice over the phone. "What have you got on it?"

"Captain Lama made it all up. It's a hoax. A joke."

"Boy, that's a hell of a joke."

"We're setting up a press conference to break the story."

"O.K. I'll start filling in the Diplomatic Corps. I kind of feel sorry about it all being a hoax, though. It was exciting to think about while it lasted."

"Yeah, but at least you don't have to worry about any spacecow dung splashing you on the head."

And he hung up the phone.

Lama ducked into a phone booth at Washington National Airport, checked to see no one was watching, and stripped off his uniform jacket. From his shirt he unpinned his wings and captain's bars, stuffing them into a jacket pocket. Then he folded the jacket, inside out, and rolled it into a bundle.

He cut across the arcade to the lockers, dumped in the bundle and his cap, slipped a quarter into the slot, and turned the key. That took care of the uniform. Now, in his blue pants and shirt, he looked like any airline employee running around the terminal.

Smugly satisfied with himself, Paul Lama walked down the arcade towards the lobby. He was heading for the coffee shop, but when he reached the lobby he heard a television. It was set up behind the railing that separated the main lobby from the shelves of the book store. He changed his course and veered towards it.

There, on the set, was the image of a bald-headed man, nattily dressed, sitting on a high stool. He was centered in a circle of softly clacking teletypes, and read from a small stack of teletype papers he held in his hand. As he finished each paper he dropped it to the floor while two assistants went from machine to machine, glancing briefly at each one, and, occasionally, ripping off a sheet and taking it to the announcer who placed it at the bottom of the stack.

"ALL OUR PROGRAMS HAVE BEEN CANCELED THIS AFTERNOON," the announcer said talking directly into the camera, "IN ORDER TO KEEP YOU ON TOP OF THE FAST BREAKING SPACECOW STORY, AS IT'S BEEN HAPPENING."

Paul watched one of the assistants hand the announcer a fresh paper. He glanced at it, put it under the stack, and read from the top sheet.

"THE STATE DEPARTMENT HAD BEEN DELUGED WITH CALLS AS COUNTRIES FROM ALL OVER THE WORLD ARE DEMANDING TO KNOW



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ABOUT THE SPACECOWS. THE U.N. HAS CALLED A SPECIAL MEETING TOMORROW TO DEBATE THE ISSUE. SINCE THE SPACECOWS ARE AN INTERNATIONAL AFFAIR AFFECTING WORLD SECURITY, SOME DELEGATES ARE SAYING THAT ALL NATIONS HAVE A RIGHT TO SHARE IN THE KNOWLEDGE. THE STATE DEPARTMENT HAS BEEN ANSWERING ALL INQUIRIES WITH A DISCREET 'NO COMMENT'." And he crumpled the paper, dropping it to the ground.

"A TELEGRAM HAS BEEN SENT TO THE PRESIDENT FROM THE HUMANE SOCIETY OF THE UNITED STATES STRONGLY PROTESTING THE REQUEST OF THE AMERICAN BIOLOGICAL ASSOCIATION FOR A CARCASS OF A SPACECOW. 'THE SOCIETY OPPOSES', THE MESSAGE SAYS, 'THE USELESS SLAUGHTER OF OUR DEFENSELESS SPACE VISITORS. UNLESS CONTROL MEASURES ARE TAKEN NOW, THE SPACECOW WILL FOLLOW THE DODO, THE GREAT AUK, AND THE PASSENGER PIGEON INTO EXTINCTION'. SO SAYS THE HUMANE SOCIETY."

Paul watched him crumple another sheet.

"IN THE MEANTIME THE SEARCH GOES ON FOR THE MISSING AIR FORCE CAPTAIN PAUL LAMA . . ."

The announcer disappeared and Paul saw his own face pop onto the screen.

". . . AMONGST RUMORS THAT HE WAS SEEN IN AN AIR FORCE CAR HEADING TOWARD CAMP DAVID. . . ."

Paul cautiously turned around. No one had noticed him. He tried to appear inconspicuous as he took a pair of dark sunglasses out of his shirt pocket, bent his head, and put them on.

He would have to get out of here. It was just a matter of time till someone matched up his face with the one they flashed on television every ten minutes. Briefly he thought of Jimmi's apartment, but discarded it. That would be his last resort. Then he saw the answer staring him in the face.

In the center of the lobby was an Avis stand. He would rent a car, drive out of town, and get a motel for the night. It was so simple he was amazed he had not thought of it before.

He walked across the lobby and stopped in front of the counter. A pretty girl looked up and smiled.

"Hi, what can we do for you today?"

"I'd like to rent a car," he answered.

"Fine," she said taking out a pad and writing on it. "How long do you plan on keeping it?"



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"I'm not sure. Probably only a day or two."

"All righty. Ford or Chevrolet? We also have a Plymouth."

"It doesn't matter. A Plymouth."

"Name, please."

"Tweed. Harrison J. Tweed."

"Address?"

"2020 Madison Street, Rochester, New York."

"May I have your license, please."

Paul reached for his back pocket and froze.

"My license? You need that?"

"Yes, of course," smiled the girl. "We can't rent a car to you without a license."

"Well, I have a license."

"May I see it?" she asked, reaching out her hand.

"No! Can't you take my word for it?"

"No, we have to see it."

"You don't trust me?"

"It's not that, sir," answered the confused girl. "We have regulations we have to go by and they say we must see the license and get the number."

"I'll give you the number."

"I have to see the license," she said determinedly.

"I don't have it with me. Can't you just rent me one without it?"

"No, we can't. I'm sorry but we'll have to have your license."

"How about a little car? A Volkswagen? I'll rent a Volkswagen if you'll forget about the license."

"I'm really very sorry, but we must have your license."

"How about a Honda?" he asked desperately.

The girl shook her head and tore up the contract she had been working on. Paul walked a few steps away, then turned and snapped at her.

"I thought you were supposed to try harder."

"Hello."

"This red dog."

"The one with the blue tail?"

"And yellow eye."

"This is Boris."

"This Belenski. Want to speak to Ambassador."

"Just a moment."

"Belenski, this is Kalinkov."

"Comrade, good news. Spacecow is hoax. Lama made spacecow up."

"Impossible. Isvestia just announced that Soviet scientists have had the spacecows under study since Gagarin's flight. Have you located Lama yet?"

"Hear he is at Camp David."

"Good. Try to capture him. We must have all the information on the spacecows we can get."

"Comrade, I do not understand. If Air Force is saying they know nothing, and Isvestia is saying we know everything, then why we after Lama?"

"For one in your position, Comrade, you are quite naïve. When Isvestia says we know everything, it means we know nothing, and when the Air Force says they know nothing, it means they know something."



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Colonel Rogueford waited in the wings with Senator Peters and the Secretary while the press filed into the large Pentagon briefing room. Microphones were hooked up to the podium linking it to all the major radio stations in the world. The television cameras were hastily set up to carry the conference "live" to the nation and across the Atlantic via Early-Bird Satellite to Europe.

As he watched he felt his stomach churning, like the kneading of great hands. The conference would be all his. Senator Peters would give a short following statement, but the Secretary was there merely as a spectator. Colonel Rogueford, alone, would have to break the news of the hoax and face the wrath of the press. He did not much like the idea; he had already had one unpleasant experience before the television cameras. The thought of it caused him to grimace as he reread in his mind the telegram that rested in his pocket.

"Returning home immediately. Irma."

Then the moment of truth had come. The cameras were set up, the mikes tested, the seats filled. He heard his name announced, walked out to the podium, and cleared his throat.

"Ladies and Gentlemen, I have a prepared statement," and he read from the papers he had put on the podium. "The Air Force has made a complete investigation into this morning's press conference, and we can find no explanation, other than the deliberate desire of perpetuating a hoax on the American people, for the actions of Captain Lama when he announced that U.F.O.'s were spacecows. There is absolutely no validity to the statement."

Rogueford could feel the growing uneasiness of his audience, their restlessness, the rising hostility, and he rushed on to exonerate himself and the Air Force.

"We want you to know that we had no foreknowledge of Lama's statement, that the Air Force was not responsible for his actions, that we had no intention of ever fooling the American people or the press."

"Are you trying to tell us there are no such things as spacecows?" yelled a voice from the floor.

"I haven't finished my statement," Rogueford smiled down at them. "Captain Lama set about to embarrass the Air . . ."

"Wait a minute," Rodger Millner's face popped out of the crowd. "Just tell us about the spacecows. Is the Air Force now denying their existence?"

"Well, I have this statement to complete. If you'll . . ."

"What about the spacecows?"

The cry was taken up by others on the floor. They didn't want to hear about the Air Force; they wanted to know about the spacecows.

"All right. All right," Rogueford called and they calmed down. "There are no spacecows. They



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

don't exist. Captain Lama made the whole thing up."

"How do we know that?" Millner asked. "How do we know the Air Force isn't covering up?"

Rogueford looked contemptuously at the man in the horn-rimmed glasses.

"That's impossible. There are no spacecows and those are the facts. Who are you going to believe, the United States Air Force, or Paul Lama who is only a two-week reservist?"

"Just a minute," came another shout from the floor. "I'm only a reservist myself. I'd like to know what the Air Force would have done without us 'only' reservists during wartime."

"I didn't mean it to sound that way," Rogueford apologized, the sweat beading on his nearly bald head. "Of course the Air Force recognizes the great debt it owes to the reserves. What I meant was that Lama couldn't have known much about what's going on since he's only been on duty a week."

"Long enough to find out about the spacecows," Millner put in, "but not long enough to keep his mouth shut. Isn't that what you mean?"

"No, that's not what I mean. The Air Force is not covering anything up. What reason would we have?"

"The same reason you had when you kept telling us that U.F.O.'s were swamp gas."

Rogueford felt his stomach flipping. They didn't believe him.

"The truth of the matter is that there are no youfos," he said. "There are no spacecows. Lama made them up."

"Then why not let Lama tell us himself."

"Because we haven't been able to locate him."

"Colonel," Millner asked, "why is the Air Force so adamant in keeping security wraps on this project when the cat has already been let out of the bag?"

"There are no security measures here."

"Then why do you keep denying the spacecows so vehemently?" shouted one of the press.

"Because," he said in a rising voice, "they do not exist!"

"Then how come I have proof that they do exist," Millner snapped.

Rogueford's stomach felt like someone had just squeezed it. He stared out at the press staring back at him as he groped for something to say.

"That's impossible," he said at last without much conviction.

"The Soviet Union announced about twenty minutes ago that they have had spacecows under surveillance for the past couple of years. Now do you still say they don't exist?"

"Well, I don't know," he stammered and looked to the wings for help, but Senator Peters and the Secretary turned their backs and walked towards the door. "I was told they don't exist."



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"It might interest you to know that on my show tonight," Millner said, "I will not only prove that spacecows exist, but that the Air Force has captured one and had it under study."

"They did?" he asked feeling absolutely sick. It could be. There was always something going on that he didn't know about.

"I'm sorry, Gentlemen," he said scooping up his papers. "I have made my statement. Spacecows do not exist."

He turned and walked rapidly from the room. He followed the Secretary and Senator Peters into the elevator. The press were pouring out of the briefing room and Rogueford faced them, at attention, while the elevator doors shut them off. Then his shoulders slumped.

"They didn't believe me."

No one said anything. The elevator started moving again.

"They didn't believe me," he repeated to no one in particular.

"I can't blame them too much," Peters said. "Didn't believe you myself and I know they don't exist."

It was quiet as the elevator continued on its way, and then the senator spoke again.

"You know, I almost believed in those spacecows."

"For a while I did believe in them," said the Secretary.

"I still do," admitted the colonel.

It was quiet for the rest of the trip.

He heard it ring. And ring. And ring.

"Answer the phone," he said into the mouthpiece.

The receiver at the other end was picked off the cradle.

"Hello," came a distinctly feminine voice.

"Jimmi?"

"Yes, who is this?"

"Does the name 'Raincoat' mean anything to you?"

"Paul! Where are you?"

"I'm at National Airport. Do you have a car handy?"

"Do you want me to pick you up?"

"Oh boy, I certainly would. I'll be standing in the door of the main terminal looking like an airline agent with sunglasses."

"Give me about thirty minutes."

Paul Lama went back for his jack and cap, rolled them tightly into a bundle, tucked it under his arm, and walked out through the lobby to the glass doors of the main entrance.

The day was over. A dismal rain was falling on the autumn evening. Paul was glad he was inside.

He checked his watch. Five minutes had gone by. He leaned wearily against the wall, waiting, watching the cars arrive, hesitate at the curb to pick up or discharge passengers, then continue on their way. Finally a car pulled up in front of the doors and he saw Jimmi's face look out the window to him.

Paul ran out and hopped in the



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

car. Jimmi pulled away from the curb and headed for D.C.

"All hell's broken loose."

"Yes, I know," he said. "I have to get a place to stay."

"You can stay at my apartment till it's time."

"Thanks. I was hoping you'd let me stay the night. I'll get out tomorrow."

"Don't worry about tomorrow."

They drove on in silence, the lights of the capital reflecting in the black waters of the Potomac.

"I told them it was all a joke," she said at last.

"Yes, I saw Salad Dressing's press conference. I almost felt sorry for him."

"They picked him to pieces. No one will ever believe there aren't spacecows now."

"To tell you the truth," he said, "I'm not so sure myself." And then he changed the subject. "I'm hungry."

"Good. That's always a sure sign of life. I'll whip you up something when we get home."

They drove on. Jimmi broke the silence again.

"No," she said reflecting, "I don't believe there's anything we can do to shake their belief in the spacecows now."

More silence.

"They're having a show tonight," Paul said, "that's supposed to prove there are really spacecows. Did you hear that the Russians claim they know all about them?"

"Yes, I heard that, too."

She drove on for a moment.

"Do you think they really do?"

Paul laughed out loud.

"Don't you remember? I made it all up."

Jimmi laughed with him.

"You see, even I'm starting to believe it."

They fell silent once more as she drove under Memorial Bridge and up the George Washington Parkway. Paul leaned back and shut his eyes.

He was tired. The whole day was catching up with him. He drifted into the restless state between sleep and wakefulness, a dream trance, where he found himslf trying to answer the question of what was going to happen to him.

Suppose the spacecows really existed and he had given away a most Top Secret project without realizing it. Would they courtmartial him or just hang him outright?

Suppose the Russians really knew something. He saw a treaty of cooperation signed between the two countries and found himself forced to play a charade of pretense as his country tried to find out what the other side knew.

He was in a large room with the red-bearded Russian scientist.

"What you know?" the Russian asked him.

Paul shouted inside his head and the dreams dissolved and swirled about him.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"There . . . are no spacecows!"

But suppose the Russians had a fake expert trying to find out what America knew.

The mists settled and he found himself back in the same large room.

"I don't know anything," Paul saw himself say. "I made it all up."

"Keep quiet," the Russian ordered.

Paul watched him run to the door for a quick look. Satisfied, he ran back and whispered confidentially.

"I know nothing also, but no one must find out. If I told my Government they would not believe me. Things would become most unpleasant. So, I tell them I find out this and I find out that. Then if you tell your Government that I know nothing after I say I do, they will hang you for being informer."

"Then what are we going to do?"

"We distort something here, interpret something there, we, how you say, improvise, just enough to keep things going."

"But what will happen when they find out?"

"Don't think about it. If we lucky, we both be dead of old age."

"But suppose we're not dead of old age?"

The Russian lifted his beard with one hand, raised two fingers of the other to his neck, and made a cutting motion.

Paul watched his dreamlike self follow the Russian's example and raise two fingers to his neck. He felt the sharp edge of his fingers cut through his throat to pierce his wind pipe, and felt the hot, gurgling blood run down his neck.

"Here we are!"

Paul bolted upright in his seat! Eyes wide open!

"What's the matter?" Jimmi asked.

He looked blankly around, took a deep breath, and then relaxed.

"I must have fallen asleep. Had a horrible dream where I had my throat cut."

Jimmi reached out and took his hand.

"Everything's O.K. Everything's going to be all right."

He felt her warm, smooth hand in his.

"When you say it, the way you say it, I believe it, even though I'm not so sure it's true."

"Come on," she said getting out of the car, "you'll feel better when you get something to eat. I'm a good cook; have I told you? I'm a very good cook."

"Hello."

"Want to speak to red dog."

"The one with the blue tail?"

"And yellow eye. This Belenski. Want to speak Ambassador."

"This is Boris. Comrade Ambassador is not here."

"Tell him is knowing where is Lama. Tell him get plane warmed up at airport."

"Wonderful. I will tell him."

"We get him, bring him to airport."



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Good . . . good. I will tell him."

The black Ziv pulled up to the curb of the large dark building. The driver hopped out, ran around the car, and held open the door. The man in the black, broad lapeled coat stepped out of the car and tripped over the curb. He cursed in Russian.

"With all the money they throw around you think they could afford to turn on a few lousy lights."

He was met by a slender, clean-shaven man at the gate and led down the long corridor into the main house proper. Inside the main hall they took his coat and showed him to a small room with a desk and soft leather chairs. He sat down. The guide went away.

The man, left alone, ticked off the steps he would follow. It would be tricky and he would have to use finesse, giving up only what was necessary, but if he had to give up everything, then that's what it had to be. He heard a noise and looked up to see his guide standing in the doorway.

"The President will see you now, Mr. Ambassador."

The man heaved a sigh, pulled his large hulk out of the chair, and went into the President's office.

"Good evening, Mr. President."

"It's nice to see you, Mr. Ambassador. Come in and sit down."

"I want to thank you for seeing me at this hour. I was just in touch with Moscow and the Chairman wishes me to convey his regards."

"Well, that's right nice. And how is the Chairman?"

"He's in perfect health, Mr. President. But what I came to discuss tonight is good news. The Soviet Government is prepared to go along with your request for a treaty of cooperation and sharing of all space projects, and most of your suggestions for a general easement of the Cold War. The Chairman wanted you to have the news right away."

"Mr. Ambassador," said the President, "yes, this is good news. I see this as the beginning of a new era, an era of world accomplishment, where we shall bring forth a new society for the world, a great world, a new society for a great world."

"Yes, Mr. President. I will convey your great thoughts to the Chairman." He hesitated, only a few seconds to give the impression of reflection, and then continued, "Of course, our space cooperation would include the sharing of our knowledge of the spacecows."

The President looked surprised.

"But they don't exist. We've already announced they don't exist. It was all a mistake."

"Yes, that's what the Secretary of State said, but, Mr. President, we are now talking as cooperating nations."

"That's why I want to stress the fact that it was all a hoax."

The Russian smiled slyly.

"You are a hard bargainer, Mr. President. All right. We will throw



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

in a Cultural Exchange Program, disarmament of the Arctic Ice Pack, and an exchange of airline privileges. In return we want the sharing of the spacecow. We do not feel this is too much."

"You are right, Mr. Ambassador, but they don't exist!"

"Why must we do all the cooperating. You must make concessions, too. All right, we'll permit the sale of Stetson hats in Moscow and release an American tourist convicted of voyeurism. Now will you share your knowledge of the spacecow?"

"But that's what I'm doing. I'm telling you everything we know. The spacecows are a fake, a hoax. They don't exist."

"I do not believe it," shouted the Ambassador jumping to his feet. "My country has had the spacecows under study for some time and now you tell us they do not exist. I am aware of how your Government works, Mr. President, the more you deny something the more sure we are it is the truth."

"That's not so. We'd be glad to give you any information we have, but they simply don't exist."

"Ah ha! You see! How emphatically you deny it. You do not trust us. We are willing to share our knowledge and you refuse. All right, we refuse. No spacecows, no treaties."

"Goodnight, Mr. Ambassador," snapped the President.

"Goodnight, Mr. President," snapped the Ambassador.

After the door closed on the Ambassador, the President grabbed the red phone. He had only to wait a split second before a voice was heard on the other end.

"I want to speak to the Secretary of Defense," he shouted.

"Hello, Mr. President," came the Secretary's voice a few seconds later.

"What's going on? Do we have spacecows or don't we?"

"No! At least I don't think so. With all that's been going on lately I'm beginning to have my doubts."

"Well, if they're not real how come the Russians have been studying them for the last few years?"

"I don't know. I checked with C.I.A. and they don't have anything on it. The Russians could be using it for propaganda purposes."

"I've thought of that."

"Either that or they really do know something about the U.F.O.'s that we don't."

"That's possible. They just offered to share all their information with us. They must know something because they're pretty anxious to . . . hold on!"

He reached over and grabbed the blue phone.

"Stop the Ambassador. Tell him I'd like him to wait a few minutes while I reconsider our conversation."

He laid down the blue phone and talked back into the red.

"There's something going on here that we don't know about. If the



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Russians are so anxious to share our knowledge, there must be something to it. I want you to find that man who made that announcement this morning and get him over here."

"We haven't been able to come up with him yet."

"I said I want him found! Call the F.B.I. and tell them I said I want him found and fast. Get the Army and the Navy out, call up the National Guard, I don't care who, but find him! If he really doesn't know anything, he's going to have to pretend he does till we can find out what's going on."

He didn't wait for an answer, but slammed down the phone and picked the blue back up.

"Hello," he shouted, "let me speak to the Ambassador."

There was a slight pause.

"Hello, Mr. President."

"Mr. Ambassador," he said soothingly, "I reckon I might have been a bit hasty. I wonder if you could come on back to my office and chat a spell."

"Mr. President, I would be most delighted."

Rodger Millner's fat round face looked out at the monitor on the video tape from behind his horn-rimmed glasses. The monitor was blank as he waited for the tape to start. It was an hour show and the tape ran a little over. Something would have to be cut. His first suggestion that they cut the commercials had been narrow-mindedly rejected by the studio. It was the show that would have to be cut.

At last the technician told him the tape was ready to run. Millner snapped his fingers and the others, the technical director, the other commentators, all who were concerned with the show, sat in their places around him. The tape was started and the show began.

Millner's own face was imaged in the monitor. He looked good, he thought, as he listened to himself opening the show. His voice came across strong and clear. Millner was pleased with himself.

". . . WAS ALL A HOAX, THE AIR FORCE SAYS, PERPETUATED BY CAPTAIN LAMA AS A JOKE. THERE IS NO EVIDENCE, THE AIR FORCE CONTINUES, TO SUPPORT THE SPACECOW THEORY, INDEED, THERE IS NO EVIDENCE TO SUPPORT U.F.O.'S AT ALL.

"WHAT THE AIR FORCE FAILS TO TELL US IS IF PAUL LAMA DID PERPETUATE A HOAX, WHY DON'T THEY LET HIM COME FORWARD TO SAY SO? AND WHAT MOTIVE COULD HE HAVE HAD OTHER THAN THE SLIGHTLY ABSURD STATEMENT THAT HE DID IT AS A JOKE? IT ALL LOOKS TOO PAT, AMERICA, BUT IF THE AIR FORCE WERE TRYING TO HIDE SOMETHING, WHAT BETTER WAY TO DO IT THAN TO DENY ITS EXISTENCE?



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

AND TO DENY IT SO EMPHATICALLY AND STUBBORNLY AS THEY ARE DOING?

"TONIGHT WE WILL SHOW YOU, AMERICA, AND THE AIR FORCE TOO, IF THEY SHOULD CARE TO TUNE IN, THAT THERE IS EVIDENCE TO SUPPORT THE SPACECOWS, A GREAT DEAL OF EVIDENCE, FROM CAPTAIN LAMA'S OWN STATEMENTS THIS MORNING TO THAT OF THE SOVIET GOVERNMENT'S ANNOUNCEMENT LATE THIS AFTERNOON, AND WE ASK YOU, AMERICA, TO WEIGH THE EVIDENCE AND JUDGE FOR YOURSELVES.

"THIS IS RODGER MILLNER —SPACE SEARCH."

Millner watched his image disappear from the monitor screen and be replaced by a man walking across a meadow puffing away on a cigarette like it was marijuana and he was about to be picked up by a narcotics agent.

"Not a bad start, was it?" he asked and was pleased when they told him how great it was. He thought so, too, but it was nice to be able to sport a bit of humility.

The commercial came to a close. Millner watched the monitor, writing down comments as the show progressed, till he heard himself announcing they were going to the last place Lama had been seen as a free man. He leaned forward, his chin in his hands, elbows resting on his knees, and watched attentively as the crowded interior of the "Chez Raincoat" flashed on the monitor, moved to a close-up of the bar, and to the face of a slightly flushed man.

The man smiled into the camera.

"THIS IS SAMUEL MUDD, BARTENDER-MANAGER HERE AT THE 'CHEZ RAINCOAT', A SMALL COCKTAIL LOUNGE BUILT INTO AN OLD YACHT AND FLOATING AT THE MAIN AVENUE DOCK."

There was a quick shot of the outside of the Raincoat and then back to the interior.

"MR. MUDD, PAUL LAMA WAS SEEN LEAVING HERE THIS MORNING AND NO ONE HAS SEEN HIM SINCE. CAN YOU TELL US IF YOU TALKED TO HIM?"

A slight sneer came across Mudd's face as he weaved his head knowingly back and forth.

"I DIDN'T SEE NOBODY."

"BUT WE HAVE AN EYEWITNESS WHO SAW HIM AND A WOMAN, LATER IDENTIFIED AS HIS SECRETARY, LEAVING HERE."

"LOOK, DON'T ASK ME. I CAN PUT THINGS RIGHT OUT OF MY MIND IF I HAVE TO. I REMEMBER IN THE LAST WAR, THE REAL WAR, DOUBLE 'U' DOUBLE 'U' TWO. THERE WAS A LOT OF STUFF I COULDN'T TALK ABOUT THEN EITHER. THERE WAS



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ONE TIME IN FRANCE . . ."

"YOU MEAN YOU CAN'T TELL US?"

"LIKE I SAY, I CAN PUT THINGS RIGHT OUT OF MY MIND. IT WAS LIKE THIS TIME IN FRANCE WHEN . . ."

"MR. MUDD, DID THE AIR FORCE ORDER YOU NOT TO GIVE OUT ANY INFORMATION?"

Mudd sneered again.

"I TELL YOU I NEVER SAW NOBODY."

Millner felt someone touch his shoulder and turned around to see one of his aides.

"We got a line on Lama. He's at his secretary's apartment."

"Great," said Millner jumping out of his chair.

"Shall I round up some people and equipment and get it out there?"

"Right, I want three cameras . . ." and he hesitated. "No. On second thought, let me go over by myself. It might work out better that way."

He picked up his notepad and handed it to the director.

"I cut about five minutes out at the beginning. Cut the rest where you can."

He turned and walked to the door, the sound following him.

"WELL, CAN YOU TELL US IF HIS SECRETARY, MISS JONES WAS HERE? CAN YOU TELL US . . ."

And the door closed behind him.

"WELL, CAN YOU TELL US IF LAMA'S SECRETARY WAS HERE? CAN YOU TELL US THAT?"

Mudd's voice came across the television.

"YES, I GUESS I CAN TELL YOU SHE WAS HERE, BUT THAT'S NOT SAYING ANYTHING. I KNOW WHEN TO KEEP MY MOUTH SHUT. IT'S LIKE THIS TIME I WAS IN FRANCE . . ."

"THANK YOU, MR. MUDD."

"NO, WAIT A MINUTE, THERE WAS THIS TIME IN FRANCE, SEE . . ."

"Forget it, Meathead," Paul Lama yelled at the set.

"Hey," cried Jimmi coming in from the kitchen, "he can't hear you."

"I know that, but it just makes me mad to see this thing growing right before my eyes, like my own personal Frankenstein monster."

Jimmi sat down next to him, tucking one leg under her, and Paul turned back to the set.

"I think I hate that guy," he said as Millner's face came back onto the screen.

"WHAT WE DIDN'T LEARN FROM MR. MUDD, WE DID GET FROM MRS. MUDD."

Millner's face gave way to a long shot of a nondescript house on a nondescript street, and zoomed in on two people standing in the center of a small, cleared circle of waving women and children on the lawn. Of the two in the circle, one was



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

polished, tie, suit, a smile full of shiney white teeth, and the other was plain, dumpy, middle-aged, and a housewife.

"MRS. MUDD, DID YOU TALK TO MR. MUDD THIS MORNING."

The woman put one finger to her chubby cheek.

"WHY, YES, I DID, NOW THAT YOU MENTION IT."

"DID HE TELL YOU ANYTHING UNUSUAL?"

"NOW LET ME THINK."

And again she put her finger back to her cheek, obviously enjoying all the attention she was getting.

"WHY YES HE DID. HE SAID HE JUST TALKED TO A FELLOW THAT TOLD HIM ALL ABOUT THE SPACECOWS."

"DID HE TELL YOU THE MAN'S NAME?"

"NO."

"WELL, DID HE TELL YOU WHAT THIS, AH, FELLOW SAID?"

"HE SAID THIS MAN WAS IN THE BAR, THE ONE THEY HAD ON TELEVISION THIS MORNING, DON'T YOU KNOW, AND HE SAID THIS MAN TOLD HIM ALL ABOUT THE SPACECOWS, BUT WE SHOULDN'T TELL ANYBODY BECAUSE THE AIR FORCE WANTS IT KEPT A SECRET."

"There goes the ball game," Paul snapped.

". . . AND HE SAID THEY CAPTURED OVER FIVE OF THESE SPACECOWS AND HE HAD THEM IN A GREAT BIG CAGE, BUT THEY ALL ESCAPED. HE SAID THE ANIMALS WERE ABLE TO BREATHE FIRE AND THEY MELTED THE CAGES."

"HE SAID THEY WERE ABLE TO BREATHE FIRE? DIDN'T YOU FIND THAT HARD TO BELIEVE?"

"WELL, YES I DID, AT FIRST, BUT HE SAID IT HAD SOMETHING TO DO WITH THEIR STOMACHS, WHERE THEY ATE ROCKS AND USED THE FIRE TO MELT THEM, OR SOMETHING LIKE THAT. I NEVER DID UNDERSTAND ABOUT ALL THEM THINGS, BUT SAM, THAT'S MY HUSBAND, HE SAID THEY WERE OVER TWO THOUSAND DEGREES, OR SOMETHING, BUT REAL HOT, DON'T YOU KNOW. AND HE SAID THEY WERE THE SAME ANIMALS THAT'S STARTED ALL THOSE OLD STORIES IN ENGLAND ABOUT DRAGONS AND HOW THEY BREATHE FIRE. THE MAN SAID THAT A HERD OF SPACECOWS LANDED AROUND THAT TIME, AND IN CHINA TOO, AND THAT'S HOW THOSE OLD FAIRY TALES GOT STARTED."

"You see what I mean, Paul said. "I never said anything about dragons, but I'll bet the whole country believes it now. I suppose if I had



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

said they laid golden eggs they'd have swallowed that, too."

Millner's face came back onto the screen.

"YES, A FIRE BREATHING SPACECOW AND THE LEGENDS OF DRAGONS. A LITTLE FARFETCHED? WE HAD A TALK WITH DR. NEUENSCHWILDER, PROFESSOR OF PHYSICS AND LEADING AUTHORITY OF ARCHEOLOGY ON THE CAMPUS OF TEXAS WESTERN COLLEGE."

The image of an elderly man, white hair sticking out like the wings of an albatross, came into focus.

"I THINK THAT THE SPACECOW FITS IN SURPRISINGLY WELL. WHEN YOU STOP TO ANALYZE EVERYTHING, IT FALLS INTO PLACE, PROVING, CONCLUSIVELY, THAT THE OLD . . ."

Paul pushed the knob and the picture grew smaller, and smaller, till all that remained was a tiny dot of light.

"I've had enough," he said sitting back down beside Jimmi. "I don't see how we could get anyone to believe us now."

"No, not after that. I think it's hopeless now."

"I've sure got myself into a hell of a mess."

"You sure have."

Jimmi turned to see his sad, tired eyes.

"Hey," she moved over into his lap, putting her arms around his neck, "it's not all that bad."

"Everything is in such a mess and I've dragged you right along into it with me."

"I don't mind. It's better than sitting home alone."

"Thanks. If it hadn't been for you," he said, stopped, and added quickly, "Jimmi, I'm in love with you."

"Well," she said as her face slowly broke into a smile, "this really is better than staying at home alone."

And she kissed him. Lingeringly. Until they were jolted apart by a loud banging on the door.

Jimmi jumped to her feet and headed for the kitchen.

"Come on, we've got to get out of here!"

"No, I've had enough of running."

"Open that door in there, or I'll break it down."

"Paul, please, we've got to get out of here."

"It's no good, Jimmi," he said walking to the door. "They'll only catch up with me again."

"Wait," she pleaded, "you don't understand. Don't open the door!"

It was too late! He turned the handle and the door was pushed open from the other side. Rodger Millner came barging into the room.

"Paul Lama, I presume," he said.

Paul stared unbelievingly at him.

"Well, I'll be damned. I thought you were on television and here you are breaking into the place.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Let's see, breaking and entering should net you about three years with time off for good behavior."

"Can it, Lama," Millner said shutting the door. "The whole country is looking for you. You're lucky I found you first. I know a place where you can hide out."

Paul looked blankly at Jimmi and then back to Millner.

"Why are you so anxious to help me? What's in it for you?"

"Simple. I help you out with a hideout, and you help me out with an exclusive interview."

Paul laughed.

"Forget it. I'm finished with hiding out."

"Now just a minute. Think about it before you say no," he said taking off his horn-rimmed glasses and rubbing his eyes. "Look, I'll tell you what I'll do. I'll give you twenty-five percent. It could add up to hundreds of thousands of dollars. Maybe even a million," he said, his eyes glowing at the thought. "First, I'll start off with an exclusive T.V. interview in our secret hideout. We'll follow this with a story in *Life*, and then a biography, I'll write it, and last, we'll sell it to the movies."

Millner put his hands up and painted a picture in the air.

" 'Paul Lama And The Spacecow Revelation'."

"Are you crazy?" Paul asked. "The whole country is in an uproar over this spacecow hoax and all you can think of is money and an interview."

"All right. Fifty percent. I'll split it right down . . . hoax? What do you mean hoax? There really are spacecows!"

"No, there aren't."

"But this morning you said . . ."

"I made it all up."

"But my program—I just proved that they exist . . . I'll be ruined . . . NO! I don't believe it. The Air Force has got to you. I'm not going to believe that."

"I don't care what you believe. I was stupid this morning for making up a wild story, but not half as stupid as you for believing it and reporting it."

"It's true?" Millner asked sitting down. "There really are no spacecows?"

"Jimmi, you tell him."

"There are no spacecows," she said.

"My whole career," he cried, putting his face into his hands, "Going down the drain. Everyone believed it." He jerked his head up. "They still believe it!"

Millner jumped to his feet.

"It's not too late," he said, his face brightening. "You could get out of town and everyone would still believe it. You'd only have to stay away a couple of months."

Millner started pacing up and down as he talked.

"I'll try to get you out of a court-martial. I think I can do it. Play on the public's sympathy. In the meantime we'll have our interview and follow it up with a feature on your



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

life. I'll say things from time to time, like I don't really believe you, so that in the end I'll be in the clear and we'll both have a bundle. How about it?"

"You know," Paul said, "you have an avaricious little mind."

Millner's face fell.

"Well, if you won't do it for money, I suppose there's no use asking you to do it for me? No, huh? I thought not. Shot in the dark. But remember, breaking the news my way would be easier, and you still face a court-martial, and you could use that money. You tell him, Miss," he said turning to Jimmi for support.

Jimmi smiled at Paul.

"You're right, he does have an avaricious little mind."

Before Millner could answer there was a loud noise from the hall and the door flew open. Three men



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

in heavy black coats came walking into the room.

"Well," cried Jimmi, "welcome to the party."

One of the three, a man with a square face and bushy eyebrows, looked at her.

"You will not speak," he ordered and turned to Paul, "You Lama?"

"Me Lama," Paul smiled, "You Jane?"

The hard, cold face creased slightly.

"Me Belenski. You come with us."

"Now just a minute," demanded Millner. "I'm a member of the press and I'll have you castigated if you try any of your police brutality stuff around here."

The man answered with the flat back of his hand that sent Millner sprawling.

"You say something else?"

"Yeah," shouted Millner from the floor, "you bet I do! I'll have every newspaper in the country out after your guts for that."

"Millner," called Paul as he cautiously moved close to Jimmi, "I think you're making a mistake. I don't think they're ours."

"Eh? What do you mean?" he asked, and then looked wide-eyed at the three men. "You mean—spies?"

The man with the bushy eyebrows pulled a large gun out of his pocket and swept it around the room.

"You know too much. I think better we take you all."

A new voice snapped in from the hall.

"I think you had better drop your guns and raise your hands before you get a hole in the head."

The three men dropped their guns. They raised their hands and moved into the center of the room as three new men, dressed in trench coats, came in behind them.

"Well," said Jimmi, "this is getting to be quite a party, but you'll have to get your own dates," she added taking Paul's hand and raising it, "I'm already taken."

One of the new men stared coldly at her, and then to Paul.

"You Lama?"

Paul smiled.

"Me Lama. You Jane?"

The man in the trench coat wasn't amused.

"Very funny line. Quite original."

"Who are you guys?" Millner shouted from the floor. "Are you ours or theirs?"

"I'm with the Federal Bureau of Investigation."

Millner jumped to his feet.

"Well, I just want you to know that I'm a member of the press and if you try any of your police brutality stuff around here I'll have you castigated."

The man turned to Paul.

"Who's he?"

"He Jane?"

Jimmi giggled, but the man merely shook his head. He walked over to the three men in the heavy coats.

"It looks like we finally caught up



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

with you three." He studied them and then asked the man with the bushy eyebrows, "You Belenski?"

"Me Belenski," said the square, hard face. "You Jane?"

The man in the trench coat smiled.

"That's very funny. You'll be a riot in the penitentiary."

"Stick 'em up everybody, and don't make a move."

Standing in the door were two Air Fore corporals with M.P. armbands. Each had two black forty-five automatics, one in each hand. Wearily the men in the trench coats dropped their guns beside those already on the floor and moved into the center of the room. The two M.P.s came into the room. An Air Force captain pushed in between them, looked around, and turned to Paul.

"You Lama?"

"Me Lama," said Paul, hesitating, then finally added, "You Jane?"

"Yeah," said the captain, "Melvin Jayne. How did you know?"

"Just a minute," shouted Millner. "What are you guys doing here? Have you got a search warrant?"

"Look, we're the Air Force. We don't need a search warrant."

"Oh, no? How would you like to face a court-martial?" asked Millner. Breaking and entering, should net you about three years with time off for good behavior."

"Who are you?"

"I'm the press. Just wait till I blab this all over the front page. With pictures!"

"Hey, you can't do that," said the captain turning to the man in the trench coat. "He can't do that, can he?"

"You bet I can," yelled Millner.

"But the door was already open, wasn't it?"

The man in the trench coat shook his head.

"He's got you there."

"Maybe so," put in the man with the bushy eyebrows, "but is only technicality. He came in with gun, so, attempt assault with deadly weapon. Carries term of fifteen years."

"Hey," said the captain, "don't help him along! All I did was walk through the door. Actually these guys," he said pointing to the corporals, "had the guns, I'm just an innocent bystander."

Paul felt Jimmi pull his hand as Millner, not to be put off, continued to shout at the captain. He followed her across the kitchen and out into the hall.

"Come on, we've got to get out of here," she said leading the way towards the back steps.

"Hey, not so fast. Where are we going?"

"I have a plan, but if we don't get out of here pretty quick that group inside will be on our necks."

Paul followed her down the steps. They were a flight from the bottom when a loud noise reached them from above. They increased their



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

speed, spurred on by the sound of bullets ricocheting off the steel banisters.

At the bottom Paul took Jimmi's hand and half pulled her as they raced for the car.

"Here, you drive," and she tossed him the keys.

They hopped in and he hurriedly tried to slip in the key. He couldn't get it into the slot. The noise was getting closer. The key slipped in and he twisted it. The engine turned over. And over. And over. The sound broke from the staircase. The engine came to life. Paul slipped it into first and jammed his foot to the floor and the car, with a screeching protest, jumped out of the garage and down the street.

"Where are we going?" he asked again.

"You'll see. Over Key Bridge. Turn here!"

He cut the wheel and the car screamed around the corner and headed over Key Bridge.

"Take a right onto the George Washington Parkway, just after we get off the bridge."

He worked his way to the right side of the bridge, turned onto the ramp, and headed up the Parkway, away from Washington, D.C., alongside the dark Potomac.

"Where are we going?" he asked for the third time.

She pointed straight ahead. He peered out the windshield, as far as the car lights lit up the climbing road. Nothing. He eased off on the gas. The car did not slow up. He took his foot completely off the accelerator. The car continued to the top of the hill, left the roadbed, and headed into the black, cloudy night.

Paul wasn't frightened. He was too amazed. Before he could even turn to Jimmi, a round, bright disk appeared above them. A door opened as they approached and the car moved into the black interior. The door closed up behind them.

He heard the announcer.

"We now bring you a special bulletin from our First Headlines News Room."

He saw his face appear on the monitor and looked up into the camera.

"Good evening, America, this is Rodger Millner just back from one of the most hectic nights I have ever spent in my life, a night taken right out of fiction thrillers complete with spies, F.B.I. agents, and even a comic relief team supplied by the Air Force.

"It all started when I received word that Paul Lama could be reached at the apartment of Miss Jimmi Jones, his secretary during his two-week reserve duty with the Air Force. I went to see Paul Lama and was conducting an exclusive, personal interview, discussing the spacecows, when the door was broken in by three believed Soviet agents, spies, led by a man named Belenski. I was beaten and thrown to the floor and then they de-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

manded that Captain Lama, Miss Jones, and myself accompany them. I want to tell you, America, I was shook up. I knew if we went with them it would strictly be one-way. But according to the book this was the time help was supposed to arrive, and, right on cue, in came the F.B.I. I could have kissed them. They captured the spies and everything seemed about wrapped up when along came the comic relief. A party of three Air Force police, led by Captain Melvin Jayne, barged into the room upsetting the applecart. There followed a confusion of questions, accusations, and shouting that would have rivaled any play by the Keystone Kops, and in the ensuing melee, Paul Lama and Jimmi Jones disappeared, Belenski and the spies escaped, and the Air Force succeeded in shooting up an estimated twenty-five thousand dollars worth of apartment building. The last I saw of the F.B.I. they were headed after Belenski.

"Now for the big story, America, the exclusive interview with Paul Lama. A few hours ago I set out to prove the existence of spacecows. An hour of documentary detective work was spent in showing interviews, our collection of evidence. So you will understand my double embarrassment when I have to inform you, now, America, that there are no spacecows.

"Paul Lama confided in me this evening that it was all a hoax, the biggest of this century, to be sure, but made up in the innocent happy-go-lucky tradition of the men who wear the Air Force wings, as a joke, convinced that no one would really believe it. Now we know, America, that he was wrong. But we can still show a measure of pride, for with spirit like this we don't have to worry about the morale of our fighting men. And, remember, he had the whole world believing him, even had the Russians fooled into saying they knew about the spacecows when it is obvious by their attempted kidnapping of Captain Lama that they knew nothing.

"And so, America, this is Rodger Millner reporting to you from Washington, an embarrassed, but honest reporter, a sadder, but wiser man, closing the book on the most exciting story of our time, the spacecow. America—good night!"

Paul Lama woke up to a soft humming. It was like a background noise, there, but hardly noticeable. He was lying on a bed, naked, in a small room with walls that gave off a pale iridescent light.

At the foot of the bed he found a garment made out of a soft, lightweight chain mail. On the floor was a pair of supple leather moccasins. Aside from these there was nothing else in the room. The walls were perfectly smooth and, although there was a door, there was no door handle.

Paul picked up the garment. It resembled a miniskirt with nothing



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

underneath. He shrugged and slipped it on. It fit very well, but it didn't hide very much. He slipped on the moccasins and, dressed as best he could under the circumstances, walked towards the door. It opened as he approached. He stopped and waited, unsure of what to do next.

"Paul?"

It was feminine. It was Jimmi.

He rushed through the door to be stunned by the thousands of tiny lights, red, blues, yellows, racing across the boards that held them in place on the walls of the large room. Between two of the floor to ceiling consoles was a padded control chair, bolted to the deck, a bank of dials and switches in front of it, and above, a large window looking out to the night. The black void was literally blanketed in stars with a fat, shining globe near the top.

"No, it's not the Moon."

Paul wheeled about to see Jimmi pouring a pink liquid from a shaker into a glass. She was dressed in a similar chain mail miniskirt, smaller in size, and looking far better in it than he. She handed him the glass.

"This will clear up your head," she said and walked to the control panel to check some dials. "That's Jupiter out there. We're leaving your Solar System and heading for Plexuses, which is the center of my civilization. I think you'll like it there," and she turned to face him, "at least I hope so."

"Do I have a choice?" he asked.

Jimmi thought a moment.

"No, not anymore. You did this morning when I begged you to go back upstairs, but not now. However, you have the dubious distinction of having forced us to abandon one of the best pastures in the galaxy, and having ruined my study grant. You see, you just about hit it on the head with the spacecows, and we are forbidden by law, because of bitter past experiences, to interfere with another civilization's development until they are able to leave their environment and make contact with us. Just the knowledge of our existence is an interference."

"But it was all a gag."

"That's what I tried to tell the Student Central Directorate, but they insisted that I was being too emphatic to be telling the truth."

Jimmi turned to the bank of dials and spoke with her back to him.

"Before Millner broke in this evening you made a revealing statement about your feelings towards me, perhaps a rash statement on your part considering that I'm from a different part of the universe. Does it bother you now?"

"If you really mean does it bother me, the answer is hell yes. I'm on a ship heading out into space, I don't even know where, but I've a feeling I've seen my home planet for the last time. Also, you're from a different world. I don't know what your people are like. I don't know what your world is like. But if what you



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

really mean is do I still love you, then the answer to that is also yes. It's not something I can turn on and off."

She smiled.

"You don't have to worry about my world. It's very much like your own. But I'm glad that all that has happened has not changed your feelings for me. It makes it a lot easier for me to tell you that I've chosen you for my mate."

"What? You chose me for your what?"

"Um-hum," she answered and rushed on. "Our social system is a bit different from yours in that respect, and I would have preferred to wait and let you do the choosing since I know that it's so important to your sex in your social system, but there really was no choice. You were gassed and out of it. If I hadn't taken you for my mate right then you would have become instant incandescent. I couldn't bear the thought of you not existing."

"Well," he answered, "I guess I wouldn't have been crazy about the idea myself."

He brushed his hand through his hair. Everything was going too fast. Even the fat disk in the window had shrunken to the size of a tennis ball in the short time they talked.

"How long was I out?"

"About an hour. You were gassed as we came on board the saucer and then brought to my ship—our ship," she corrected herself. "A sort of space taxi, really, and we took off immediately afterwards. I checked on you from time to time, but you were sleeping so soundly I didn't have the heart to wake you."

He looked sharply at her. "You mean while I was . . . lying in there."

A sly smile slipped across Jimmi's face.

"Um-hum. I think there's something else you should know," she said walking to him. "I'm not much different from the women on your own planet."

And she put her arms around his neck and kissed him.

And the kiss?

It was far from innocent. ■

**COVER REPRINTS**

*Reprints of John Schoenherr's "Tuvela"—this month's cover—available at the usual price $1.50 per copy. Send your check or money order to: Dept. AC-9, P. O. Box 1348, Grand Central Station, New York, N. Y. 10017.*



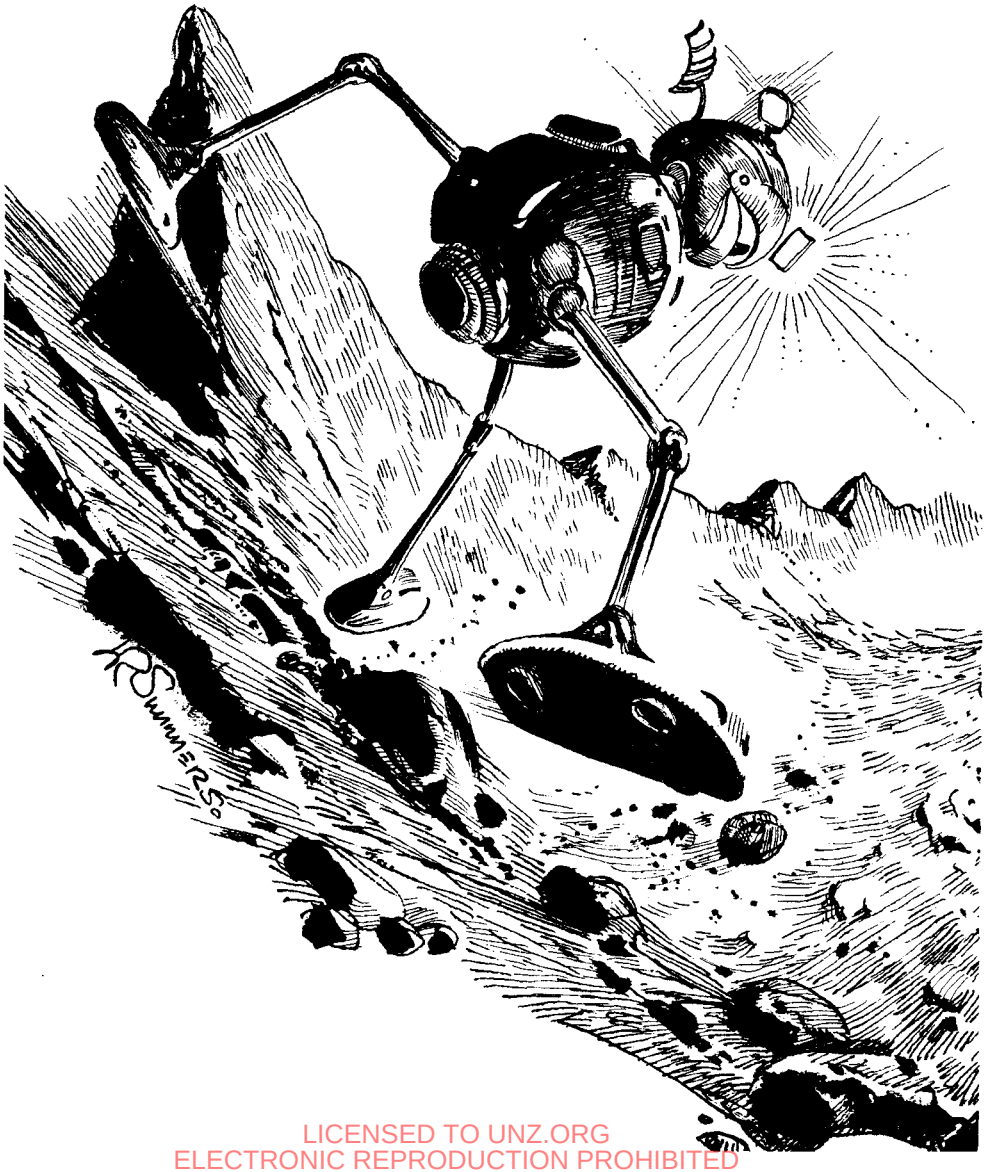
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

# A FLASH OF DARKNESS

*Like most good research, getting the answer to one question opens the door to myriad new ones!*

*BY STANLEY SCHMIDT*

*Illustrated by Leo Summers*




LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

When the sun dropped below the horizon, the ambient light sensed by MR. Robot IV dropped below the critical level. Radio flashed the news to his brain, which occupied an entire level of the ship four miles away, *in twenty-one microseconds*. The brain recorded it and waited a few seconds to be sure night had really fallen. Then it flashed a command back to him.

The latest scion of the Mars Rover line folded the big cloak of solar cells which sprawled about him and drew it into his squat metal body. There it would be out of the way until he needed it again, at dawn, and he could move about unencumbered.

He opened his big lensless eye to negligible starlight. A beam burst from the laser at the base of his neck and spread. A small fraction of it went directly to his bare retina; the rest flashed out over the featureless desert in front of him. An interference pattern formed and faded in an instant on his retina; the wide-band radio link relayed the pattern to his brain and he saw that part of the desert. Then, a fraction of a second after the process began, a tiny mirror just under the front of his top plate spun and paused, the laser winked again, and he saw the other half of the view before him. The mirror whipped back to its starting position and the routine continued.

Seeing nothing unusual, MR. Robot rose on his legs and continued clockwise along the spiral path he had started last night, looking vaguely like a huge, plodding, three-legged spider. He scanned the route ahead methodically as he went. Though he saw nothing alarming now, he was haunted by disturbing *memories*.

His psychology was sufficiently nonhuman that it is probably inaccurate to say he felt a vague foreboding of danger. But he remembered there had been something just marginally acceptable about many of his views last night—yet nothing he could define clearly. And there had been one stretch of perhaps half a mile, shortly before dawn, when something had been very definitely —and inexplicably—wrong. A period when every second or third view was hopelessly fogged, and many of the others were far below par—and frequent bursts of meaningless noise intruded *between* views.

Now it was all right—or at least no worse than most of last night. As he trudged across the powdery sand, he kept trying to fit together the confusing half-impressions from that pre-dawn period. But there was not nearly enough real information to reach any conclusions. He could only hypothesize that either there was some unknown malfunction in himself—in his eye or his memory—or there *was* something unusual and possibly dangerous nearby.

Less than half an hour later he got a reminder. In midstride came one



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

of the attacks, like the ones in that half mile near dawn but even worse. It totally wiped out the view he was taking when it struck. He saw nothing—but an auxiliary section of his brain registered "OVERLOAD." The next view was practically normal—but immediately after it came a savage burst that made the warning center scream "OVERLOAD" again. Then a badly hazed view to the left, a normal one to the right, another noise burst . . .

The succession of closely spaced overload warnings constituted MR. Robot's nearest approach to a sense of pain—a persistent, throbbing warning that something was wrong. But the danger was not one of the few types—such as cliff edges—that his rather simple mentality could recognize. So he could not attempt to do anything about it. He moved doggedly onward, slowing his pace considerably to compensate for his badly impaired vision.

And one section of his brain kept repeating, "OVERLOAD . . . OVERLOAD . . .", while another complained, "INSUFFICIENT DATA . . . INSUFFICIENT DATA . . ."

Another brain section had the full-time job of returning data and views to Earth. During the day, while MR. Robot stood in the sun with his cloak spread for recharging, it sent full views of everything accumulated during the previous night. At night, while he explored, it sampled current data, condensed selected views to easily transmitted two-dimensional pictures, and sent them as running previews of what was happening.

Forty million miles of space kept the men who monitored those transmissions several minutes behind latest developments. Thus MR. Robot was well into the danger zone before Burton Todd, seated in a windowless but well-lighted room, muttered, "Look, Dave, it's happening again!"

Dave Archer looked at the screen going blank every second or two, and at the red malfunction light blinking somewhat more rapidly on and off. He frowned. All he said was, "Hm-m-m!"

"Is that your only comment? How about what's causing it?"

"I'd give worlds to know, Burt. None of the others had any trouble like this, and it doesn't fit anything the developers anticipated when they wrote troubleshooting guides. You've got me."

"He's not going to be much use to us if he goes on like this," Todd observed. He chewed on his lip and finally said anxiously, "You know him better than I do. Don't you even have a guess?"

Archer shook his head. "Sorry." He paused and added, "I don't have a guess *now*. I have a feeling there's one trying to pull itself together right on the tip of my brain, but it's not ready yet."

Todd said no more. They both continued anxiously checking and



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

rechecking everything on the panels in front of them.

Three quarters of an hour had not improved the situation. If anything, the overload warnings were more insistent now, and MR. Robot's vision had deteriorated enough so he had had to slow down still more. If things continued to get worse, he might be forced to stop altogether.

And the combination of overload warnings, missing data, and confusing partial data was starting to disrupt his already limited thought processes.

Then things seemed to start improving slightly. Not enough so it was possible even to be sure, but it did seem that the attacks were growing very, very slightly weaker.

But by the time MR. Robot was beginning to suspect things were looking up, Todd and Archer were just finding out that they were getting bad enough to start thinking about drastic measures.

And Archer's guess matured. He said suddenly, "Burt, we ought to get him out of . . . whatever he's in. Get him out of it and let him sit in safety while we think."

Todd looked up, surprised. "How do you propose to do that?"

"He was all right," Archer said, "for twenty minutes before he stopped at dawn and twenty minutes after he started off after sunset. Let's send him back to where he spent the day."

"How do you know it'll be safe there now? This could just be something intermittently wrong in *him*."

Archer shook his head stubbornly. "I don't think so. I have too much faith in the old boy. And I'm familiar enough with how he works so I think I could think of an internal cause of this if there was one. I haven't been able to. But I *can* think of an external cause."

"Which is?"

"Incoherent light. MR. Robot has a holographic vision system because it lets him carry around simpler optical machinery than a stereo camera system and still get full depth perception, which he needs for his own protection. Not to mention that he can send us much better pictures as holograms than as stereo pairs. But he has to see by the light of his own laser—which means he has to go around looking at reflecting objects at night. If there's much stray light around it'll make things very difficult for him. Anything self-luminous he won't see—it'll just be a noise source. If there was a powerful light source in his field of view, it would swamp all his signals. Which is exactly what seems to be happening."

Todd frowned. "O.K.," he said, "I can swallow that, up to a point. But what's to act as a powerful—and intermittent—light source on Mars? And why was he free of it for a while?"

"The answer to that," Archer said with a hint of a smile, "could be



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

much more interesting than miles and miles of identical desert. My guess is that the light source, whatever it is, is behind something we overlooked. Maybe the area he's exploring isn't quite as featureless as we thought. If I'm right, he spent the day in the something's shadow and now he's walking straight into the light. Anyway, the place to start is to have him go back to where he was. If it's still clear, he can look around for us and help us decide what to do next."

Todd hesitated. "Nobody's ever sent a command to a Mars Rover before," he recalled. "Risk's considered too high—takes so long for a signal to get here and another to get back. The robot might be in very different situations when he sends the original signal and when he gets the answer. The confusion could be fatal."

"I don't think," Archer said quietly, "that we're likely to put him in a much worse pickle than he's already in." He reached out and touched a small panel labeled FOR EMERGENCY USE ONLY. "Shall I?"

Todd nodded. Archer lifted the panel and positioned his hands on the keyboard it concealed. He typed a brief directive in a language roughly somewhere between Fortran and English.

"Go back," the order said, "and wait for instructions."

MR. Robot did not understand the reasons, but his basic program made no provision for doubting or disobeying direct orders from Earth unless obedience would involve a very clear and immediate threat to his survival. Besides which, despite his suspicion that the unidentified interference was starting to weaken, it was still practically as strong as it had ever been. Continuing on this path would likely lead only to more frustration.

On the other hand, if the thing he was up against really existed outside himself, mightn't retracing his steps just lead him back into the very worst of it?

It seemed to him that it might. But it was just a suspicion, and there was nothing either clear or immediate about the threat. The direct order must be followed. He stopped, turned around, and started back.

Evidently his suspicion had been wrong. In just a few steps it became clear that the interference was, for all practical purposes, gone. His vision was at least as clear as it had been at any time since he had landed. The path he had followed was accurately recorded in his memory and such feeble winds as stirred in this thin air had done nothing to erase his tracks. He was able to make normal time on this return trip, and it was not long before he stood exactly as he had all day.

Except that now his cloak was not spread and he scanned the horizon patiently as he waited for new instructions.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The malfunction light had stopped blinking as soon as MR. Robot had turned around. Now Todd and Archer watched the screen intently as it alternated between two clear views from a single position in the Martian desert. Finally Archer touched a button that froze the view to the right on the screen. "There it is," he said, pointing at a tiny lump near the right side of the horizon.

Todd strained his eyes to see it. Now that it was pointed out, its presence was undeniable. But it was so inconspicuous that it had escaped notice before, although later inspection of the holograms sent back during the Martian day would surely reveal that it had been there. It looked like a crater, but something about it was subtly different from the usual Martian crater. "I think it's a little one," Todd announced finally. "Not very high, but compact and rugged. Little enough to explain why none of the fly-byes noticed it, and probably less than ten miles away."

"My very own set of guesses," Archer nodded approvingly. "There's nothing in the other view, and this thing's in the right general direction to explain MR. Robot's troubles. *If* the edge is jagged and there's something in there sending a powerful light beam out through the open places." He thought briefly and suggested, "I think we should send him to take a look."

"He's an awful lot of tax dollars and man-hours, Dave," Todd pointed out. "Even if your idea's right as far as it goes, we still have no idea what's in that crater to cause it. We could lose him."

"I know. But the only reason he's there is to explore. To find out what's in places nobody's looked before. I don't think he should pass up a spot that may have some unusual interest if he can find one in that monotonous desert. Sure, there's a risk—but even if we lose him, his last views may be worth all the others he would have gotten. I'll take full responsibility."

Todd shook his head. "No, you won't. You talked me into it—I want to see it, too." He uncovered the emergency keyboard. "If it's as close as we think, he can make it in a few hours. And if I get your picture right, he should be able to go straight toward it from where he is without being blinded. Right?"

"Right."

Todd tapped out a message telling MR. Robot to do just that. Then, as an afterthought—and knowing MR. Robot would have to dismiss it as an "UNKNOWN STATEMENT TYPE"—he added: "Good luck."

MR. Robot sat at the bottom of the steep rock hill and scanned its side, looking for a place to climb. His latest orders had been to proceed directly to this formation and investigate it. He was here now, after some hours of easy beeline across level desert—during which, interestingly enough, he had had no trouble



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

seeing. But it was obvious that the "investigate" part of his mission would involve getting up onto the hill—and inside, if it turned out to be a crater. From here he just saw a rugged mass of apparently solid, dark rock rising at an average slant of 50° to a height of some hundred feet. Jagged projections jutted from it at bizarre angles, casting long black shadows up the hill when his laser flashed at them. The same sort of terrain seemed to extend as far around the hill as he could see in either direction. Apparently it mattered little where he went up.

Well—there was one basis for choice. Looking more closely at the top, he saw that its height varied somewhat from place to place. And looking at one of the low places, a short distance around to the left, he got a definite impression of ridgelike character that convinced him this *was* a crater. A crater with a jagged-toothed, crownlike rim—and the easiest way for him to get inside would be to climb through one of the low-cut notches between the teeth.

He started up, aiming for the notch to the left. Progress was not fast, although the surface was rough enough to provide abundant footholds. He had to thread his way among the projecting rocks, choosing gaps big enough to pass his bulky body. Since he was not built for close vision, he had to plan every individual step well in advance. When the time came to take a planned step, he had to take it gingerly, testing the footing before he settled appreciable weight on the new spot.

Finally he was almost there. A few more steps and he would round the edge of the wall rising more steeply to his right and pass through the notch into the crater. Already the wall was curving more rapidly around to the right, and he was close enough to the notch to see the edge of the next tooth. It was surprisingly narrow, and the interior of the crater seemed to fall steeply away just a short distance back into the notch. He would have to be very careful here—footing on that razorlike ridge would be tricky, and the descent into the crater might prove too steep to attempt.

An old apprehension came back. After hours of no trouble, he began to feel something slightly wrong with his vision. It was that vague feeling that the views he was getting were somehow not as clean as they should be—that a shapeless haze of *something* hung over many of them, marring them in some not-quite-definable way. He still couldn't say just what it was, but he felt almost sure something was there.

And it got a little worse with each step he took along the curving wall toward the interior.

The attack came as he was taking the last step of the climb, emerging fully into the notch. It must have been a thousand times worse than any of the others. His visual over-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

load circuits screamed in agony, and the blindness persisted so long that he knew even his retina was badly affected. It tried to recover, but as soon as a trace of sight started to return, the thing that was here struck again with its full blinding fury.

Even the first shock had been enough to confuse him and throw his motor coordination slightly off. The foot that had already been in the air when the first attack came descended an inch from its planned mark and skidded slightly. The next foot tried to go to its planned destination and missed by a little more.

His motion faltered as more and more of his mind turned its attention to what was happening to it. He still didn't know what it was. But even though it did not fall into his standard pictures of danger, he could no longer avoid recognizing it as such. In a primitive way, MR. Robot formed the concept of an unseen enemy here that would destroy him if he did not learn how to defend himself against it. And a first step in defense, considering the closeness of that precipice and his essentially complete blindness, was to stop.

The decision came too late. His last step before he planned to stop found no ground. Before he could draw back, he was leaning, toppling, slipping over the edge.

Fortunately it was not a long straight drop. He hit ground almost immediately. But the ground he hit was at least as steep and rugged as the outside of the rim. When he struck, he kept sliding downhill, careening into boulders and finally coming to rest in an awkward position against the side of a huge one.

Automatically he checked himself for damage. There was a bad dent in his side, which might not have done much good for the solar cells stored immediately under it. And one leg was bent between joints, badly enough so that use of it would be imperfect and difficult—but not impossible. Otherwise, he seemed to be in surprisingly good shape.

He looked around. That "haze" hung over every view he took in here, but it was not bad enough to keep him from getting any useful information. He saw the notch through which he had made his ungraceful entrance, forty or fifty feet above. The area around him was a shambles. Irregularly shaped individual boulders of all sizes up to thirty feet in "diameter" were piled chaotically and densely everywhere he could see inside the crater.

He tried walking and succeeded in approximating a limp. The crevices between loose boulders made the going especially treacherous here, but he managed to get as far as the edge of the boulder he had landed against.

He wanted to see what was behind that boulder. By luck, he managed to get one glimpse of a roughly conical hill rising out of the rubble in the middle of the crater.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Then the blindness hit him again.

He stood still, unseeing but thinking.

*Investigate*, the order had said. Obviously that hill had to be investigated. But when he left the shelter of his boulder the attacks of blindness came, and he could not travel blind among these tumbled rocks.

Perhaps the thing that was tormenting him was *on* that hill.

And perhaps the jumbled boulder that filled the crater could be used to his advantage. *This* boulder, when it was between him and the hill, protected him from the attacks. Maybe the others could, too. He knew which direction the hill was in, and among all these irregularly arranged rocks it might be possible to find a sheltered route to its base.

He managed to grope his way back into the shelter of the boulder and his sight returned. He looked around for the nearest other boulder which looked, by analogy, as if it might give safety. He planned his steps through the gap between the two hopefully sheltered areas and resolved to ignore vision failure during that brief interval and stick stubbornly to his planned steps. Then he ventured out.

He made it. Encouraged, he continued the process, exploring visually behind each boulder and flitting blindly from one to the next. He made no serious mistakes, and using his almost entirely empirical method, he reached the hill.

But as soon as he stepped out onto it and tried to take a step upward, blindness clamped itself upon him and he froze.

His body sat motionless, staring with dazed blankness toward the summit, while miles away his brain grappled unsuccessfully with a dilemma.

After pacing around the room for five minutes, Archer suddenly stopped and slammed a fist into a palm. "He thinks it's *daylight*!" he announced as if that made everything obvious. "But he's not sure."

"Explain," Todd said flatly.

"He decides when it's daylight by measuring incident light flux from all outside sources, averaged over a few seconds. If it gets high enough, he stops what he's doing, shuts his eye, spreads out his solar cells, and recharges. He seems to be very close to—whatever he's very close to—now. That fluctuates, but apparently the average flux from it where MR. Robot sits now is right around his trigger level—and he can't make up his mind whether it's night or day."

"What'll he do—just sit there from now on?"

"Oh, if he waits till dawn, it'll definitely convince him he should spread out and recharge. That could be disastrous on that hill. I think we'd better give him a nudge."

Archer uncovered the emergency keyboard again. Todd looked alarmed—this seemed a particularly



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

risky time to try to butt in with a remote command.

It also seemed a particularly risky time to leave MR. Robot to his own devices. "If it'll make you feel any better," Archer said, "I'm not going to tell him what to do. I'm just going to give him a bit of information." He did. As he covered the keyboard he added uneasily. "I hope it's right."

"It is not daylight yet. An unidentified light source at the top of the hill is interfering with your vision."

At first MR. Robot found the advice about as lucid as human programmers often found the "diagnostic messages" returned by conventional computers. The blunt fact was that he had little conscious knowledge of how his eye worked.

But he did know that his retina's function was to detect light. And that ideally all the light it detected should originate in his own laser.

The message from Earth seemed to say that his blindness and present confusion were due to extraneous light coming from something at the top of this hill.

Each searing attack that made him grope like a man in the dark was really a flash of too much of the wrong kind of light.

In effect, a flash of darkness.

O.K.—it wasn't daylight. He would forget about recharging. He must continue up the hill to investigate the light source.

And if it was there—and it was the cause of these attacks—it might be well if he could destroy it, too.

But how could he reach it? He would have to do it without seeing where he was going. But the blindness attacks were too much of a strain. He had been able, by special effort, to travel short distances during them down among the boulders, but he couldn't do it all the way to the top.

There was another possibility that just might work. Remembering the odd thing that had happened when he got the first order from Earth, he decided to try it.

Very carefully, he turned around, and found that he could look down among the boulders with only moderate fogging.

He started up the hill, very slowly because he had never seen the path he was trying to follow. Each step consisted of moving one leg with the utmost caution to a new secure position, planting it there, and then feeling for a new place with another foot.

It wasn't fast. But it worked.

"Would you look at that!" Todd burst out, startled. "He's *backing* up the hill! I didn't know he was smart enough to think of doing that."

"Neither did I." Archer added with a straight face. "*I* wouldn't have thought of it—or had the nerve to try it."

MR. Robot couldn't tell how close he was to the top for the sim-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ple reason that he didn't know where the top was. But he had been climbing for quite a while when one of his tentative steps touched something flat and too smooth to get a grip on. Under continued probing it seemed to be a square plate about a foot on a side. It was recessed slightly in the rock, and although his foot slid on the plate itself, it came to rest against the rock lip on the downhill side and gave good enough footing so he could take another step.

From that point on, the ground was full of the plates, set in the solid rock and spaced less than a foot apart. Every step now consisted of moving a foot up the hill until it dropped into one of the recesses and then just letting it rest against the lower edge.

And the path seemed to be leveling off. He must be getting very close to whatever was at the top.

Thirty feet beyond the first plate it was practically level. And another attack came, bad but not overpowering.

He was close to it. He took another step backwards.

The next attack was worse. The thing must be slightly in front of him now, and off to one side.

Concentrating hard on the fact that his normal reactions to strong light must be suppressed, MR. Robot turned carefully to the left. The attacks weakened.

He turned to the right. They became unbearable.

He turned back to the left until the interference seemed to be at a minimum. It should be straight behind him now. Like a determined tank, he began backing up as fast as he could with reasonable safety.

In ten feet he bumped something. He didn't dare look to see what it was, but he planted his feet firmly and pushed against it as hard as he could.

In a few seconds, something gave under the pressure. A couple of fragments of porous rock tumbled off down the hill. MR. Robot almost lost his balance.

And then his vision cleared completely.

He stood for a moment gazing warily out over the boulders between him and the rim—whose teeth rose nearly as high as this hill—trying to find anything short of perfection in the views. Then he turned slowly and cautiously, sweeping half the crater with his eye.

Still the views remained perfect, with no trace of competition from anything worse than the starlight he was designed to ignore.

When he had turned all the way around, he stopped and relaxed. He looked squarely upon the thing that had caused all his troubles, but was now harmless, and realized that he had won.

"They were solar cells!" Todd exclaimed suddenly. "Those flat plates near the top were solar cells!" He



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

pointed to the middle of the view on the screen, where a short, thick cable emerged from freshly broken rock that had been a sort of pedestal and drooped to one side. On its end a transparent globe containing a few oddly shaped shiny objects hung against the rock. It was obviously artificial, and though the details were not clear, it was not hard to guess what it basically was and did. "That thing was a beacon," Todd went on excitedly. "Somebody put it there to sweep the desert, and it ran on solar power it collected during the day, just like MR. Robot. And also like MR. Robot and his little moving mirror, its scanning must have been all internal, with few, if any, moving parts." He sobered. "It's probably been there an unbelievably long time," he mused. "If it has, it must have been tough. I wonder how MR. Robot managed to knock it out?"

"I think he had help," Archer said. "An earthquake—or whatever you call one that happens on Mars. You saw the condition of those boulders down inside the crater. I have an idea that middle peak used to be up higher, so the beacon swept 360° with no obstructions. It may have been something for travelers in the desert to guide by, since the natural scenery is so featureless. Anyway, when the original hill collapsed, it didn't kill the beacon—but it shook it up enough to make it vulnerable. It may have been on its last legs for thousands of years, but nothing happened to finish it off until MR. Robot came along. He was the straw that broke the camel's back."

"Hopefully," said Todd, "we'll know more about it in a few years. That thing raises lots of questions people are going to want answered. I'd guess we've found a prime target for the first manned expeditions. And MR. Robot seems to have survived the experience with just a few bruises."

"He did all right." Archer thought for a few seconds and chuckled. "That thing was probably put out there to help somebody see where he was going. It nearly finished MR. Robot because it kept him *from* seeing where he was going. I wonder if the irony would strike him as funny."

The answer was no. MR. Robot had little interest in humor, archaeological finds, or gloating over vanquished enemies. For him it was all in a night's work, and that was all there was to it.

Now the sun was rising over the rim of the crater, and the ambient light rose above the trigger level. He shut his eye, spread his recharging cloak, and settled down for a good day's rest on the summit of the hill he had captured.

Tonight he would leave this crater and resume his spiral journey. ■



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

*Michael Chandler* **PARASIKE**

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

*It takes real talent to find the parasike type—the guy who's pretending to be what he isn't. A fake pretending he has a talent he doesn't.*

*Illustrated by Leo Summers*

Hubert Wye stared at the starkly lettered sign, *Elmer Parkins, Consulting Numerologist,* and fidgeted. No matter how long he waited the letters didn't change. Neither did his situation; if he made a botch of his first assignment, the chief would have him as an appetizer. On the other hand, he knew, a passable showing would at least get him over the hump and give him another chance. Wye half-turned and surveyed his appearance in the mirror on the wall behind him. He was the very model of a rookie Fraud Investigation man. His face fell, because that was exactly what he *shouldn't* look like. *Maybe,* he thought, *if I left off shaving for a day or so, or wore the shiny-seat suit instead of this one, I—*

"Mr. Wye, is it?"

He spun around, narrowly suppressing a grab for the nonexistent gun. The owl-eyed little man regarded him cautiously and moistened both lips before speaking again: "You are Mr. Wye, aren't you?"

"How did you know that?" he barked in reply.

Elmer Parkins smiled faintly, apologetically. The elderly eyes shone like large brown beads through the thick lenses, as he looked up into Wye's scowl. "Your secretary," he said defensively. "She made the appointment for this hour, so naturally I assumed it to be you." He stepped back into the open doorway. "Won't you please come into my office?"

Wye entered, hat in hand, silently cursing himself. He hadn't made much money as a private detective, but at least you could talk rough to people when you needed to, and even rough them up a little if nothing else worked. It was, he reflected morosely, just as well. This Parkins was as fragile as his collection of age-weary office furniture. Wye seated himself on the indicated sofa, gingerly. He winced as his bulk



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

squeezed a sigh of dust out of the red plush, but Parkins didn't notice. The gnomelike numerologist settled into a swivel chair behind his rolltop desk and made a tent of his fingers.

"Now, Mr. Wye," he breathed, "just how may I help you?"

"Uh. Well, a Mr. Jameson suggested I see you. If you'll just tell me what you can do, maybe we can, you know, get to specifics later."

"Of course, of course. Would you please write your full name and birth date on this card for me. Then I can reduce them to their number equivalents, you see, and we proceed from there."

Wye relaxed with a sigh when he pushed the completed card back across the desk top. His intuition told him this was a wrongo, and that was enough for him. After the rotten start, it would be a pleasure to nail Parkins.

Parkins himself was bent over the card, peering myopically, lips moving silently. A long minute later, he sat up brightly. "Ah! You're an eight!"

"Beg pardon?"

"You're an eight; the numbers in your name add up to eight, which indicates a forceful and solid person, with good initiative. Of course, this can take many forms."

"Oh."

"Yes. And your *birth* number is a five, which changes everything. You see?"

"Yes. Well, maybe I'd better get to the point." (*Judas,* Wye thought, *this is as bad as the gypsy storefront operators.*) "I'd like to know a bit about what your practices are based on. And my particular interest lies in, ah, financial matters."

"Oh, indeed?"

"Yaas. Although I do dabble in real estate, my major interest is in the commodity markets. Think you can be of any help there?"

Parkins tilted back in the swivel chair, smiling beatifically. "Oh, I rather do imagine so. You see, the entire symmetry of our universe is based on numbers—wavelengths, et cetera. The names and dates of things similarly reduce to single numbers, which correspond to the vibrations of the events in question. Do you follow me?"

Hubert Wye nodded pleasantly. *Indeed I do,* he thought with warmth. *Right into the dock, where your sentence will reduce to five years min, and my pay check will vibrate accordingly . . .*

"Well," Parkins twittered on, "the names of investments, as well as their values and the dates involved, can yield dependable guides for the aware investor. My own fee is modest, I feel. Ten percent of the profits involved; provided a profit is obtained, of course." Then, Parkins smiled—gently, fatherly. "If you would be interested, I can make the necessary calculations in an hour or less, and mail or tube them to you, as you wish." He delicately indicated the paper and pen Wye had



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

used before, and leaned back benignly.

*Now for the hook,* Wye thought. "Let's see . . . Frozen pork bellies on the nineteenth, um-m-m, quicksilver . . . rye, July wheat . . ." He handed the list at last to Parkins, who seemed to trace the lines with his nose as he nearsightedly scanned them.

"Good. Oh, yes, this will do nicely." He rose, still bobbing his gray-white head. "I believe, yes. I have your fax-tube code, so I can have the recommendations to you late this afternoon provided I get right to it."

Wye took the hint, glad to escape the musty fragility of the eccentric little hustler and his office. All the way down the mirrored hall to the elevator, he whistled brightly and almost skipped with happy satisfaction. This was more like the old days, hot on the trail of a live one, with his sixth sense screaming: "Him, that's the one." Home again!

Still whistling, Wye signaled for an autocab in the clear open air of the second-floor stand. This wasn't so bad, after all. Now that he looked at it, being in this new Fraud investigation was so much safer than even skip-tracing. He settled back in the dustless cushions and slid his code card into the dashboard slot. Climbing in the tight spiral, he smiled smugly and gazed out at the city with an air of possession. Long minutes before the cab approached the Federal Building for its landing glide, he was already rehearsing what he would say to the chief. "Mr. Hart," he'd say . . .

"Mr. Hart, this one is going to be open-and-shut."

Wingate Hart raised one cultured eyebrow a fraction and gazed back steadily across the expanse of polished walnut and glass. "It seems to be that clear-cut, does it?" The words dropped into air-conditioned silence like a pebble into a pool.

Hubert Wye surreptitiously tested palm sweat with his fingertips. Besides being sure he had the goods on Parkins, he was marginally thankful that he was reporting to Hart and not being interrogated. "Yes, sir," he said forthrightly. "I'd stake my career on it."

"You are doing just that. Just outline what you've found out, and be precise and brief." Hart re-lit his cigarillo with a kitchen match and continued, "I've handled eight cases while you were out, and the day's hardly begun for me. When you learn more about the department you'll appreciate the haste. *And* get sick of gypsy palmists and Spanish prisoners. Report."

Eagerly, Wye spilled out the events in the numerologist's antique office. "It looks to me like the divide-and-conquer game, Mr. Hart. Half his suckers get steered wrong and drop out on each tip, but after a few rounds, the ones left are hooked. Then he . . ."

Hart waved him to silence



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

through a cigar-smoke cloud. "Then he uses their financial leverage in unison to rack the market up and down with a self-fulfilling prophecy, and takes his cut. The cavemen's witch doctors probably worked it first with wampum beads, God knows. Since we cover the System, I've seen six like that in fewer months. Now"—Hart smiled with acid patience—"it's good to see you've read your casebooks, but what counts is: What action do you suggest?"

"Me?" It was almost a squeak.

"None other. Aside from your being a trainee, I can't handle all the details myself. What would *you* do at this point?"

Wye calculated frantically. What to do about Parkins? He'd been an investigator, but before it had been up to the police once he found the evidence. Now . . . oh Judas, he *was* the police! "Uh-h-h," he said intellectually. "Well. We have to prove fraud, so we have to hope we turn out to be steered wrong. Right? So. We follow his advice, and when we have proof we were bilked, we hop on him. Right?"

"Wrong."

Wye wilted. "Wrong?"

Wingate Hart nodded, tiredly scanning the seascape mural over Hubert's shoulder. "Do you know," he said conversationally, "that if we proved out every potential con this department handles, using discretionary funds, the amount involved would be statistically identical with the entire annual budget of the government of this country?" Cool blue-gray eyes dropped on him like hammers. "Now, what should we do?"

Wye wanted to cry. "Well, why don't we arrange with a brokerage house to fake the deal, to Parkins' satisfaction? That way . . . No, I guess that wouldn't work. Professional ethics and all, I mean."

Hart's voiced suggestion about professional ethics was as surprising as it was obscene. "Of *course* that's what we'll do." As if on cue, the fax-tube on his desk belched out a cylinder into the In basket. Hart inspected the facsimile sheet inside it and smiled tightly. "Here," he said tautly. "Miss Wynn will put you in touch with Merrill & Finch about the cover. Use these figures your little friend has provided us, and then wait. That should be all. Oh, and Wye?" Hubert halted at the open door and peered back.

"Sir?"

"Next time, Wye, you might let your beard go a bit. I could have spotted you a mile away."

Wye nodded knowingly, numbly, and the door swung shut with a muffled thump.

A couple of months later, Hubert Wye stood before Parkins' door again, with quite mixed emotions. With a couple of triumphs under his belt, he felt a lot more at ease, and looked the part a lot less. This Parkins case still haunted him, though.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

It was his first, and still unsettled. What bothered him was the way things were going, the turn of the whole case.

"Right!" Hart had thundered at him that morning.

"Huh?"

"Right!" his superior repeated, with an oddly pleased smugness. "Every one of Parkins' tips was right on the nose. If we'd really invested, we'd be hip-deep in money."

"Oh. Maybe we were the ones who got the right tips, eh?"

"Sorry, but no. Intelligence information indicates no mail or 'phone contacts of sufficient volume to support your idea. In brief, it wasn't divide-and-conquer."

"Then—I hate to ask this, but—what do we do now?"

Hart smiled fondly. "Bring him in anyway. I don't care how; Securities & Exchange could probably cover it with unlicensed investment counseling, but that's unimportant. Have Elmer Parkins here in an hour and a half, max."

That was the end of the interview, and Wye had no more than that to go on. Here he stood, armed with a dummy warrant that spelled false arrest in letters of fire. "Now," he groaned inwardly, "I start to earn my pay."

At that moment, the door opened with a tiny squeak. The diminutive Parkins peered up, recognized his visitor, and beamed. "Why, it's Mr. Wye again, isn't it? Would you like to come in?"

Hubert caught him carefully by the arm, halfway through the door. "No," he intoned, "but you *are* coming with *me*."

The owl eyes registered alarm. "What do you mean?"

Triumphantly, Wye produced the warrant, then covered as much of it as he could with his open wallet, his badge glittering in the hallway lights and his alert face peering from the I.D. card of the department. "I mean," he rumbled, "that you are under arrest for suspicion of fraud. Anything you may say can be taken down and held in—"

"I'm quite aware of my rights, young man, but I—"

Wye's cautioning palm halted the chittering flow of words as it would, in a lesser man, have stopped a traffic stream. "Just make it easy on yourself."

Parkins was, he noted, so subdued that the handcuffs weren't needed. That was a distinct relief, considering the shaky foundation of the whole thing. When they reached the Headquarters Building, Wye sighed audibly.

Parkins himself was mouse-quiet. He gawked at the interior of the department's sector, which he had obviously never seen before. That occupied him nicely until they arrived, announced, at the door of Wingate Hart's office.

Parkins accepted Hart's offer of a chair, which left Wye to stand proudly behind. After shuffling the



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

papers on his desk, Hart looked up at Elmer Parkins.

"Mr. Parkins," he said briskly, "I think we all understand the situation. For the record, though, how do you explain your operation?" *This should be good,* Wye reflected gleefully. Hart had kneed the Record switch under his desk, and Parkins' confession would be neatly packaged evidence under the new rulings. Hubert glanced up at the camera grille and stifled the impulse to adjust the knot in his tie.

"The truth is," Parkins said quietly, "that I really don't use numerology at all. I can really tell the future."

*"What!* I don't believe a word of what you say!" That outburst earned Wye a searing glance from Hart, and a strange feeling that something was very wrong. Parkins, unruffled, went on:

"It was hard to believe myself, when I first found it out.

"I first discovered my ability at the gaming tables as a youth. My successes quickly led to my being barred from gambling as a too-consistent winner. My prescient talents proved to be operational only when sums of money are involved, so my desire to use them naturally led me to my current line of work."

Wye couldn't stand it any longer. "Then why, if you can tell what stocks are going to do, didn't you come out with it? And why advise other people instead of investing yourself?"

Parkins half-turned, the magnified eyes confronting him calmly. "Very simply, Mr. Wye, I couldn't afford to, at first. By the time I could, I was cautious enough not to. In a hostile and conformity-minded society, my only course was to hide my candle, so to say, under the bushel of numerology." He shook his head, sadly. "It worked quite well, until now. Now, however, I begin to wish I lacked this talent altogether."

Hart sat silent for a moment. Then: "There is actually no need to feel that way at all, Mr. Parkins."

"No?" Hope glimmered.

"Quite the contrary. Such talents as yours have come to our notice before. In fact, all of them have felt the same necessity for hiding it —under a cover as you did."

Parkins almost wept. "Do you mean there is some legal way I can use my gift?"

"Certainly. For example, certain unfriendly nations hide highly confidential expense information in harmless-appearing parts of their budget. If we could know where these items were, even before the budget was available, it would greatly aid our country."

"You mean you want me to be a spy?"

"That's . . . rather blunt. But yes, I suppose you could look at it that way."

The gnomelike man sat quietly, then nodded. "Oh, that sounds interesting. I'd *like* to be a spy!"



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Hart relaxed visibly. "Very good. Of course the exact details of your assignment will be worked out later, but I'm sure you'll be satisfied. Tell the secretary to route you to Section 83 for interview, and give her this folder."

Hubert Wye had watched the transaction with a frankly gaping jaw. When Parkins vanished through the door, he half-sat, half-collapsed in the chair the—the whatever-he-was had vacated. *It didn't*, he thought dazedly, *take an awful lot of detecting ability to realize that his department wasn't all it had seemed to be.*

The voice of the chief cut gently through the fog of confusion. "Right now, you're probably telling yourself that there's something funny going on here." Wye's expression signaled that the rookie agent was uncharacteristically on the edge of a faint, so Hart hurried on, "No, I don't read minds. We have run across several who do, but I'm not one of them. If I were, I wouldn't be sitting here; my job is to administrate, not to peep."

"That . . . that gut. Parkins. Was he for real? I mean can he really do what he said? And if he can, what was he doing running a cheap mystic con in a ratty office? If I could do half he claims, I'd be a millionaire by now!"

"But would you? Really?" Hart sat back lazily, but with challenge behind the cool gaze.

"Yes," he went on, "what would you actually do? Wye, the fact is that more people than we've ever admitted belong in the category of parapsychological talents, but only a fraction of them ever surface. The gritty truth is that in our culture they're freaks. Phenomena, to be studied and analyzed and psychologically dissected, in a way that would drive into hiding the talent of an Elmer Parkins."

Wye nodded, slowly. "Yeah, I see what you're getting at. That guy must feel pretty lonely among us. It kind of gives me the willies, just thinking about him."

Hart leaned forward, on the trail of his point. "That's just the trouble," he shot back intently. "For all the public fascination with psi powers, or whatever you want to call it, the typical reaction when they confront the real thing is fear. The average man fears paranormal power in another; after that, he hates him, because that man is more able than he. If you doubt that, look what popular government has become since the turn of the millennium, or even before.

"In any event, there's no legitimate outlet for the x-factor in human gifts. At the same time, though, they have to do something with it."

"Why?" Wye shot back. "If it's that uncomfortable, why not just forget it."

For a few moments, Hart just stared back, almost as if he hadn't



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

heard the suggestion. Then, gently, he replied, "Tell me, Hubert: if you were the only sighted man in a blind world, could you keep your eyes closed forever, just to avoid trouble? "Proverbs to the contrary, the one-eyed man is *not* king in the country of the blind, but neither will he put out his eyes. Now, Wye, what would you do?"

Hubert took a stab. "Go on the con?"

Hart slapped the desk top with a boom. "Exactly! Or at least something similar to it. Almost without exception, the parapsychological talent has to find outlet among those who pretend to do what he really does."

"Is that where we come in?"

"It is. We hunt for the parasike."

"The *parasike??*"

Hart spread his hands. "Of course. The genuine psi talent ends up, more often than not, masquerading as a parasite on society. *Voila:* the parasike. Finding them is this department's real function."

Wye's head was beginning to swim. "You mean . . . you mean we're really looking for somebody who can do something, only he pretends to be somebody who can't?"

"Who, in turn, is falsely pretending to be able to do something else, which he really can't. Oh, it's subtle, all right, but it has paid off." Hart ticked off his finds on his fingers. "Seven telepaths for the C.I.A. One erratic teleport, who is gradually doing funny things with the gold supply of unfriendly nations. One teen-age girl, who has protected Intelligence agents by precipitating unexplained fires in the files of certain foreign governments. We have one we haven't placed yet, who was a stage magician with no tricks; he just did what he seemed to do. And, of course, there's Elmer Parkins."

Hubert Wye chuckled. "You know, I feel like the new kid in the neighborhood who's just been initiated. Do the other F.I. agents all know what we're up to?"

"Only the ones like you who've turned up a real talent. You're lucky, really; most of them take much longer, and some never strike gold at all. What put you onto Parkins?"

"Well . . ." Wye gestured casually, modestly. "I didn't know he had the sight, or whatever it is. I just knew something wasn't right."

"You did?" Hart said softly.

The agent wet his lips, wondering if he'd said something wrong. "Uh, yes, sir. I mean, I've always been able to tell when a guy under pressure is lying. It's the old sixth sense, or intuition, or whatever. I mean, any private operator worth a damn has it; I just have it real good . . . What is it, sir?"

Wingate Hart leaned across his desk, smiling with a warmth Wye had never seen before.

"Hubert, my boy," he said, "how would you like to work at the United Nations?" ■



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

# THE REFERENCE LIBRARY

P. Schuyler Miller

## THE SERIES

From the earliest days, series have been an important part of science fiction. They gave a writer the opportunity to exploit a popular theme, or character, until his ideas, or readers' interest, finally ran out. They gave him the opportunity to develop a complex theme more fully than he could do in any one story. Nowadays, in the paperback field, they are very much with us again.

Some of the current crop are unabashedly fantastic, following the mold of Robert E. Howard's "Conan" chronicles—which are themselves being reprinted by Lancer Books in a new paperback edition with the addition of a number of previously unpublished stories finished and/or edited by L. Sprague de Camp. I am not going to do more than mention this kind in passing: they are not Analog's meat, with our present space limitations. I read them, because I enjoy them—or some of them—but I am not going to report on them here. If you do like sword-and-sorcery, look for Michael Moorcock's "Elric" stories, also published by Lancer: "The Stealer of Souls" and "Stormbringer," or his new Runestaff series about the heroic Dorian Hawkmoon, dweller in an improbable future instead of the past: "The Jewel in the Skull" and "Sorcerer's Amulet." Paperback Library has a similar series in Lin Carter's "Thongor" stories, "Thongor Against the Gods" and "Thongor in the City of Magicians."

On a more literary plane, but still unabashed fantasy, we have paperback editions of E.R. Eddison's classic trilogy, which hover somewhere between Tolkien and James Branch Cabell: "The Worm Ouroboros," which many have read but



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

few really understood, and "Mistress of Mistresses" and "A Fisher Dinner in Memison," which very few have read or understood. I still haven't had time to do it, but I will—I swear it! Ballantine publishes them at ninety-five cents.

There are two more new single-character series that do have as much right to be discussed as, say, Edgar Rice Burroughs' stories about John Carter and Carson Napier on impossible versions of Mars and Venus. John Norman's "Gor" books —which Ballantine honestly labels "fantasy adventure"—transport his hero, Tarl Cabot, to a "Counter-Earth" in our orbit but on the opposite side of the Sun. (Some of the UFO contactees claim to have visited the place, though what they report isn't like Gor.) There have been two—"Tarnsman of Gor" and "Outlaw of Gor"—and I just can't stick with them. Lancer has still another series about a scientist who is transported to miraculous places by miraculous science: Robert Moore Williams' Professor John Zanthar of "Zanthar of the Many Worlds" and "Zanthar at the Edge of Never." They're a lot more readable than the Gor stuff.

Logical transition now brings us to a venerable and durable series about a team of present-day scientists who become involved with almost every menace known to science fiction. I never read them all in the original magazines, which Street & Smith published thirty-odd years ago, and I haven't read 'em all now, though Bantam has reached its twenty-fourth volume. I am, of course, referring to the "Doc Savage" series —typical, fast-moving "pulp" menace fiction of a type that almost constituted a *genre* of its own long before the term "science fiction" was invented. I'm not sure who Kenneth Robson, the author, was or is, or even whether he was one person. I wish I had kept up with the paperbacks as they appeared, but they came too fast and there were—and are—too many ever to catch up. Try one—then read the rest if you find it's fun to read them.

We have now reached a "classic" science-fiction series whose roots go back thirty-seven years, to the July, 1931 issue of *Amazing Stories*, where Neil R. Jones' "The Jameson Satellite" appeared. Professor Jameson was put into suspended animation and set in orbit somewhere around our time—perhaps he was one of Ettinger's frozen clients. Long afterward he was discovered and revived by a space-roving race of metal beings—rather, organic brains in durable metal bodies—the Zoromes. They fitted him out with a metal body of his own, and together they went on and on and on to adventure after adventure, through issue after issue of *Amazing* and on into *Astonishing* and *Super Science*. Now the stories, including some that were bought by *Amazing* but never published, are being reprinted by Ace, three to a



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

book. In five volumes they have worked their way through the *Amazing* series—skipped the three that appeared in *Astonishing*—and started on the *Super Science* list. Even when the series first started I found the science crude and often ridiculous and the stories flat. Typical conversation in time of great stress:

"Are you still insistent in your desire to accompany half of our expedition into the other dimension?"

"I am. I shall do everything within my power to further your ends and aid those who go with me."

They're all like that. For Pete's sake, read "Doc Savage!"

We have not arrived, by a circuitous course, to three series of new stories in the old vein: Edmond Hamilton's "Starwolf" yarns and Larry Maddock's "Agent of T.E.R.R.A." stories, both for Ace, and the continuing fictionalization of the "Invaders" TV program, from Pyramid Books.

Edmond Hamilton has been writing space-action stories since long before Neil Jones, and he never wrote a story that sounded like that bit from Professor Jameson. The two Starwolf books that I have seen so far—"The Weapon from Beyond" (No. G-639) and "The Closed Worlds (G-701), both fifty cents—move smoothly and fast and are fun to read. They're what "Jameson" might have been and never was. Morgan Chane is an Earthling, brought up by the piratical Starwolves of Varna and a fugitive from them. He is picked up by a mercenary ship and makes a place for himself in the violent life of their time. In the second book they are at grips with relict science from an ancient race on a forbidden world. Great science fiction it isn't, but it's something we need in today's Second Revolution.

Hannibal Fortune, the agent of Temporal Entropy Restructure and Repair Agency, is a time-traveling James Bond who works for the Galactic Federation of 2572 A.D. and against the bad-guy organization known as Empire, run by Gregor Malik, tyrant of Borius. In "The Flying Saucer Gambit" (G-605) he is on Earth in 1946; in "The Golden Goddess Gambit" (G-620) he is back in Atlantis; and in "The Emerald Elephant Gambit" (G-644) he is involved in the fall of the Indus Valley civilization. If the author had done the kind of research Murray Leinster has put into his novelization of "Time Tunnel" scripts, these would be far better yarns. They don't come close to the Starwolf stories.

Finally, there are two more in the "Invaders" series that Pyramid is publishing, novelized from scripts of the TV programs. Keith Laumer did the second, "Enemies from Beyond" (X-1689), as he did the first book. Four scripts are converted into novelette-length stories, all formula and action: "The Survivor" (Invader base under the Gulf of Mex-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

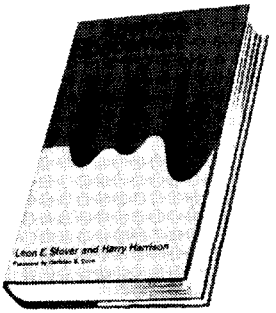
# S F Swings!

*In a collection of new stories from today's capital of the "new thing."*

**ENGLAND SWINGS SF**
**Edited by Judith Merril**

There's a different kind of story coming from London today — and it's changing science fiction almost the way Carnaby Street changed fashion. And *most* readers, including some jaded with ordinary SF, are discovering new stimulation in the work of these swinging English writers. You'll be surprised, even shocked, at some of their concepts, but all the authors represented in this collection by SF's leading anthologist will make you think — as well as entertain you in an exciting new way. $5.95

*In an anthropological anthology of speculation about man's past and future.*




**APEMAN, SPACEMAN**
**Edited by Leon E. Stover and Harry Harrison**

Most story collections have a connecting theme, but few have ever had one as exciting as this. Using the basis of anthropology — the study of man — and the skill of some of the most prominent SF writers, APEMAN, SPACEMAN spans over two million years — from the time man was still swinging on branches to his first walk in space, and beyond. With a foreword by well-known anthropologist Carleton S. Coon, and stories by such writers as Heinlein and Clarke, this is almost required reading for SF fans. In fact it *is* required reading in some college anthropology courses! $5.95

**To your bookseller or to**
**Doubleday & Company, Inc., Dept. 8-ANL-9**
**Garden City, New York 11530**

Send me the books I have checked below. ☐ I'm enclosing my check or money order for the cost of the books and understand you'll pay all postage. ☐ Please bill me the cost of the book, plus shipping charges.

___ENGLAND SWINGS @ $5.95
___APEMAN, SPACEMAN @ $5.95

NAME.....

ADDRESS.....

CITY.....STATE.....ZIP.....

Offer available only in the U.S.A. and Canada.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ico is destroyed), "The Allies" (rats help fight off monsters which for no explained reason invade the Florida coast), "The Clairvoyant" (a Hindu mystic helps attack an Invader base) and "The Telescope" (Invader station on the Moon is destroyed with the unwilling help of NASA). A new writer, Rafe Bernard, takes up the series with No. 3, "Army of the Undead" (No. R-1711), and changes its tone completely. Bernard seems to have been given a freer hand, or the series improved, or something: at any rate, David Vincent, who has been going it alone in the first two books, suddenly and without background has official cooperation for a war against Invader-controlled zombies in a great automobile manufacturing center whose geography is by no means Detroit's. The new approach just might keep the series going.

Also ignored here are the great numbers of "save the world" paperbacks that hybridize super-inventions, supermen and espionage fiction in a way that Sax Rohmer, Edgar Wallace and many another popularized back in the '20s. Some day people will be collecting them as borderline SF. I'm not.

**THE RULE OF THE DOOR AND OTHER FANCIFUL REGULATIONS**

*By Lloyd Biggle, Jr. • Doubleday & Co., Garden City, N.Y. • 1967 • 206 pp. • $3.95*

Nine varied stories by a good and active writer, one of which—"A Slight Case of Limbo"—was published here in Analog in 1963 and promptly landed in Judith Merril's "9th Annual" of best SF. It is the story of an old man who helps an alien and finds the other's gratitude painful. Remember?

The title story is a psychological and sociologiacl puzzle-yarn, in which alien explorers try to find a human specimen suitable for their ruler's galactic museum. "Petty Larceny" is a deliberately corny comedy of the city slicker (human) who attempts to sell innocent star-tourists a number of improbable commodities, including the Moon and the Brooklyn Bridge. "On the Dotted Line" is the somewhat more fully developed misadventure of an advertising man from our own world transplanted to Detroit of 2337 and trying to apply his skills.

"Judgment Day" hits the borderline between science fiction and fantasy in its story of a man who insists "They can't do that to me!"—and believes it. "Secret Weapon" is the best comedy piece in the book: the sad tale of some omnipotent aliens with a foolproof scheme for taking over Earth . . . except that they are totally unprepared for certain stumbling blocks that we humans skip over lightly. "The Perfect Punishment" is another good one, especially if you have strong ideas on how criminals should be handled.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"D.F.C." is the most nearly "straight" story in the book. Its hero, in the Department of Future Crime, is trying to prevent crimes that a machine has seen in the future. The chore isn't exactly easy.

Finally, "Wings of Song" is a sad and gentle bit in which a future dilettante decides that somewhere in the galaxy there must be a man who can repair a violin he has found and show him what to do with it. But you can't always have everything . . .

**DO ANDROIDS DREAM OF ELECTRIC SHEEP?**

*By Philip K. Dick • Doubleday & Co., Garden City, N.Y. • 1968 • 210 pp. • $3.95*

"Ex Africa . . ." the Romans said. "Ex Dick," we should say. The rest is the same: "always something new." He simply does not repeat himself.

This time we are in a future in which the world is so nearly used up that mankind is escaping to the planets and stars. On Earth, those who can't escape are fighting against the threat of a real or fancied replacement by androids. Pets are status markers, even when they are mechanical. Occupied apartments are hovels, yet many buildings are abandoned to decay. It is a world of contrast and contradiction, in which we follow the fortunes of one Rick Decard, bounty hunter.

Eight androids have escaped from Mars and taken refuge on Earth. Two have been hunted down and killed. Decard sets out to yet the other six. He must kill or be killed; the androids are as ruthless as he. He is harassed by the need to replace his mechanical sheep with a live pet, if only a spider. He is tempted by an android woman who has offered to help him. And interwoven with the whole intricate web is the empathic cult of Mercerism, whose devotees can link themselves electronically with their martyred teacher and share his suffering.

It may take a couple of readings to make sure exactly what is happening to Decard, and why, and how the world got in the mess it's in by 1992. Try it.

SAM MOSKOWITZ
Science Fiction by Gaslight
A History and Anthology of Science Fiction in the Popular Magazines, 1891 to 1911
*Illustrated* $6.95
WORLD PUBLISHING
TIMES MIRROR



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

# brass tacks

The little matter I threw into our April 1968 issue concerning the meanings of the old term "widdershins" and its opposite, seems to have started many a reader on a little library research. A flood of letters came in answering the challenge—most of them correctly identifying "widdershins," and a large percentage also dug out the antonym, *deasil.* We couldn't possibly print all of them, so here are a few giving relevant data—which doesn't always agree fully!

Dear Mr. Campbell:

The problem you posed on p. 155 of the April, 1968 issue of Analog was considerably easier to answer than I had expected. *Webster's Third New International Dictionary,* Unabridged. Springfield, Mass.: C. & G. Merriam, 1961, defined widdershins as:

> widdershins *or* withershins . . . *adv.* [*widdershins* fr. MLG *weddersinnes,* fr. MHG *widersinnes,* fr. *widersinnes* to go back, go against, fr. *wider* back, against, again (fr. OHG *wider*) + *sinnen* to travel, go, fr. OHG *sinnan* (akin to OHG *sind* journey, road); *withershins* alter. (influenced by obs. E. *wither-,* prefix, fr. OE, against, counter fr. *wither,* adv.): in a left-handed or contrary direction: CONTRARILY, COUNTERCLOCKWISE—used esp. of ritual circumambulation.

The dictionary credited Dorothy Sayers with the illustrative line, ". . . turned to his right, knowing that it is unlucky to walk about a church widdershins." p. 2613.

> deasel *also* deiseal *or* dessil . . . *adv.* [*ScGael deiseil*: akin to IrGael *deiseal* act of turning to the right, OI dess right hand, south, ScGael *deas,* W *dehus, deau, de,* right, southern, Bret *dehou* right, south, L *dexter* right] Right-handwise, sunwise, clockwise—used esp. of the Masonic rite of circumambulation and also of Masonic floorwork that is clockwise.
>
> 2. Deasil n-s: a charm performed by going three times about an object in the direction of the sun and sometimes carrying fire in the right hand. p. 581

A problem for which I have been unable to find an authoritative answer—I haven't looked very hard—may be of interest. A prisoner



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

aboard a vessel sailing on calm seas is traveling from the northern to the southern hemisphere. The prisoner is aware of where he is going and also knows roughly when the crossing will occur. The prison cell is equipped with light, a stoppered washbasin, running water, and bedding. There are no windows in the cell or any other way for him to see outside the confines of his cell. The problem is, how can the prisoner determine the *exact* moment when he crosses the equator?

The solution is supposed to be: The prisoner fills the washbasin with water and pulls the stopper out when he suspects the crossing will occur. In the northern hemisphere, due to the corialis effect, the water drains out of the sink widdershins. In the southern hemisphere, the water drains out of the sink deasil. All the prisoner need do is watch for the moment when the direction of the water is reversed and he will know that he has crossed the equator.

A friend, who was in the Navy, told me that the experiment was performed aboard the ship under his command. He said the experiment actually worked, however, extremely calm seas were needed before the effect could be observed. He said a small dye pill was used in the washbasin to determine the direction of the water flow.

Harry Pennington III
1413 Lombard St. Apt. #3
Philadelphia, Pa. 19146

*That water-in-the-sink business is a fine theory—but when scientists actually tried it, they had to use a huge six-foot tub, allowed to settle in a temperature-controlled room for days before interferring accidental motions allowed the theory to work!*

Dear Sir:

When The Campbell asks a question, it's a fair guess he has part of the answer already. Most of the following information may be found in *The Century Dictionary and Cyclopedia, The Golden Bough* by Frazer, and *Curiosities of Popular Customs* by Walsh. Spelling of Gaelic varies much.

WIDDERSHINS of withershins (anti-sunwise) was apparently used more often than the corresponding TUAITHEAL (left-hand-wise) and meant circling with the left hand toward center, thus moving counter-clockwise.

DEISEAL (right-hand-wise) was also sunwise, since north of 23½ °N the sun is always south of the Zenith. However, if these terms were dependent on the sun, the "lucky" direction in the southern hemisphere should be the reverse. That it is not indicates that it is a result of man's tendency toward right-handedness, rather than a remnant of sun-worship.

Circling DEISEAL is "lucky"—religious processions in most of northern Europe took care to ob-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

serve this and even in Memison they pass the cup sunwise. To 'go WIDDERSHINS' deliberately was to curse the center and the charm could be reversed by turning DEISEAL three times.

Right-handed screws turn DEISEAL, left-handed, TUAITHEAL. In Scottish country dancing one *never* circles one's partner left-about. And is there a mechanical reason why a clock must run 'Clockwise'?

Ruth Robb Haefer
1602 Worden Street
Klamath Falls, Oregon 97601

*And an alternative to "widdershins"!*

Dear Mr. Campbell:

Any Scotsman (and I assume that you are of Scots origin) should be familiar with the term *widdershins* and its opposite *sungates*. *Widdershins* and its most important variant *withershins* refers to turning in a direction contrary to the apparent direction the sun takes across the sky, from east to west, so that the term is equivalent to counterclockwise. Conversely, *sungates* refers to turning in a clockwise direction.

I found a rather amusing bit of Scots folklore from the county Ayr, vintage *circa* 1890, quoted in "The English Dialect Dictionary," J. Wright, Ed., which illustrates the usage of both terms. It reads as follows:

> "Anither kimmer (godmother) would say her dochter was in bairnbed, and she was tell't to tak her *withershins* nine times through a heap o' unwatered yarn, to tak the cat through 't *sungates aboot* as mony times again, and baudrons (pet name for a cat) would hae the pains."

Sounds like this procedure would be a bit hard on the poor cat, assuming it really works!

Both of the terms are of venerable origin, since their Anglo-Saxon ancestors *withersines* and *sungonges* are to be found in a number of old manuscripts. They also have counterparts, some quite similar in form, in a number of other Germanic languages and these counterparts are of equal antiquity.

Finally, it is interesting to note that turning "widdershins," or to the left, has been considered as unlucky, or as associated with witches' rituals, from Anglo-Saxon times. Note in relation to this that the original meaning of *sinister* in Latin was *left*. On the other hand, turning *sungates* or *sungates about* has alway been considered 'lucky' in English and Scots folklore. Again note the apparent relationship to this of the coincidence of English *right* (direction) with *right* (correct, just), and the same coincidence in German (*recht* and *recht*) and even in Russian (*pravoy* and *pravo*).

STAN COWLEY
University of Alberta,
Department of Sociology,
Edmonton, Alberta, Canada



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

*A new contender for "counter-widdershins"!*

Dear Mr. Campbell:

Not only do I know the term widdershins, but I don't have to try and look up a definition, being, as I modestly am, already a journeyman incantor of some of those arcane incantations you mention. The term is now very rare, but does indeed appear occasionally in the old recipes of ritual.

All ritual and magic includes certain magical gestures, used for punctuation and emphasis and cadence. Widdershins is one of these, involving the gesture of marching against the sun, which occurs as a part of the gesture structure within certain incantations.

Likely it is derivative of whither, from Old English *hwider* and Middle English *whider,* (cf. Gothic *hwadre* and *hwathro,* meaning "whence,") giving the expression "widdershins" and exiguous equation with "walking the direction from whence the sun comes."

As with all trade jargon used by technicians of any field of endeavor, wizardry contains many short-label terms that mean fairly complicated things, and this is what "widdershins" is. Any competent and fairly advanced sorcerer's apprentice who has a good grounding in the material contained in his basic grimoire would know what was desired if the directions of a spell indicated that he should "walk widdershins."

Later on, widdershins' meaning loosened up and was corrupted into a general term meaning what we would refer to as "clockwise."

And that is why, students, when you do an ancient incantation that tells you to "walk widdershins," and you walk clockwise instead, things do not turn out exactly as the manual specifies they should.

On the other hand, as to the term for the opposite of widdershins, I must confess it, I have never had any aquaintance with it, but I would be most interested to hear what it is.

WILLIAM TUNING
2910 Foothill Road
Santa Barbara, California 93105

*Same confusion of meaning here! It's as bad for sorcery, apparently, as in electronics, where the "current" flows from + to −, but the electrons flow from − to +!*

Dear Mr. Campbell:

Counter-widdershins is deasil. Widdershins, or withershins, means "the wrong way," or counter sunwise. That is, for a northern hemisphere culture—like the Anglo-Saxon or Germanic from which the word comes—from right to left, or counter clockwise.

I was delighted with your editorial title "Inherited Xenophobia," but then a little disappointed with the thing itself. This isn't a criticism of your editorial, it just took a different direction from the one that sprang to my mind. My reaction was of the biological necessity of xeno-



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

phobia as a behavioral trait in animals having immunological selection of gametes (see Jack Cohen in *Nature*, vol. 215, pp. 862-3, 19 August 1967.), and of the extent to which it is culturally and genetically inherited.

The ideas are interesting though unmentionable in "nice" society since they are even more extreme than simple racialism. (Racialism is the belief that there is more than one race of man.) To start with, it appears that all natural populations of wild animals are xenophobic to some, usually high, degree *within* their own species. To a certain extent this can be due to territoriality (see Robert Ardrey), but territory seems to be only one trigger; in the rat hordes which Lorentz finds so puzzling in "On Aggression," xenophobia is linked to the communal smell.

In genetic terms relatively small closed breeding groups are obviously desirable. Without them genetic progress is enormously slowed —any "advantageous" mutated gene will only work in a limited genetic environment, and outside those limits it is wasted. Given enough generations a small enough closed breeding group, (CBG), will be highly homozygous and an advantageous mutation is likely to be advantageous for most of its inheritors. Without a CBG the gene will be submerged in a large heterozygous population where it is likely to be lost since, as it is rarely advantageous, it is hardly selected for. At best population change is slow.

To obtain this desirable homozygosity a CBG must be small. This means that the chiasmatic chances of sexual reproduction will give apparently similar CBGs with the same environment *different* gene pools and *different* typical genetic environments. The differences need not be compatible—most, if not all biological characteristics can be produced in different genetic ways; the eye of man and of the octopus follow the same physical pattern, their genetics have little in common!

A small admixture of "foreign" ones may be useful, because good combinations can be kept, and bad ones selected out without greatly increasing the "scrap rate." A massive mixing of groups can be genetic catastrophe—the scrap rate can be so great that population size can not be maintained. Xenophobia is very desirable!

Certainly in most animals behavioral xenophobia is genetically inherited, but the identification of aliens is cultural. If a rat is taken away from its horde for a week or two, and then put back, it will be killed because it has lost the communal smell. It seems, to me at least, that genetic xenophobia also operates in some, if not all, people. The individual has to learn from his culture what his CBG is, and it is this that has been destroyed in man. So that what a man recognizes as



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

his CBG is not a CBG. (At this point a cheer is heard from the liberals: "CBGs are dead.") For the majority of us it is too late to say that Norwegians should marry Norwegians, and perhaps even that Campbells should marry Campbells, but provided that the liberals don't get much stronger, we should still be allowed to form new CBGs that might get somewhere in another ten generations or so!

There are lots of lovely ideas in this stuff that I hate to miss, and I apologize for cutting so many corners, but you don't have the space, and I don't have the time to do it properly. If I can get a job and an immigrant visa before our new, liberal immigration laws come into effect, I'll be joining you while you still have the remains of a capitalist system. Then when I've made my fortune, I'll write the book. In the meantime, I've a maths degree to finish this summer.

I believe Jack Cohen is a mutual friend of ours.

Thanks for the magazine and the editorials—they've been part of my education.

KENNETH HYNES
47 Wychwood Avenue
Knowle
Warwickshire
U. K.

*Another way of putting it is that "To achieve the hybrid vigor effect botanists use for such things as corn, you must first establish highly inbred pure strains to hybridize."*

*A lot of things that are of great advantage to the race are anything but pleasant for the individuals of that race!*

*Jack Cohen is a mutual friend; has the remarkable specialty of Topological Embryology—and has managed to work out the highly sophisticated technique by which a bird, say a blue jay, can extrude, from a simple round orific follicle, so immensely complex an extrusion as a feather, with all the tiny barbettes properly colored to produce the required overall pattern that identify him as a proper member of the blue jay flock. Too bad men can't make extrusions as beautifully designed!*

Dear Mr. Campbell:

I think the term widdershins—or sometimes withershins—current around 1500, probably comes from the middle high German "widersiness," being formed from the adverb "wider," meaning against or contrary, plus the genative of sin which means way or direction as associated with the sun. Hence it means in a direction contrary to the apparent course of the sun, and also, being unnatural, considered as unlucky or liable to cause disaster. (The modern German "widersinn" makes an interesting comparison as it means absurd or unnatural.) For an opposite term, I would suggest "sunwise" though 1865 is the first use of this word according to my Concise Oxford. Presumably the



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

original would be just "sinnes," which sounds rather like "sunways" through coincidence.

Incidentally, would a witch in the southern hemisphere perform her ritual backwards? Again, in Japan the potters' wheel revolves in the opposite direction to our own and both go against the apparent sun motion —were ceramics once considered a black art like that of the blacksmith?

N. F. MAUDE
162, Crofton Road,
Orpington,
Kent, England

*O.K. on widdershins, but he missed deasil.*

Dear Mr. Campbell:

Since any reader of Analog is also an expert on witchcraft, it was a bit silly of you to challenge us with an elementary word like "widdershins." I presume you are now being swamped with replies.

Widdershins is sometimes said to be a corruption of the Scottish word withershins. It is incorrectly defined in some dictionaries as "in the wrong direction." In fact it is *rotation counter to that of the sun in the northern hemisphere,* and derives from Germanic roots for "counter" and "sun" to which the corruption is closer than the "correct" form. All witches, when they dance in a circle, dance widdershins, just as they say the Lord's Prayer backwards, in each case defying the natural order of things. I won't go into their other acts of defiance.

Orthodox witchcraft in the southern hemisphere was established by emigration from the northern, and there has been considerable dissension between Australian witches who insist on following tradition by dancing counter-clockwise—actually *mittershins* for that continent —and those who are better oriented cosmically, and dance clockwise there.

Give us a tough one next time, please.

DANIEL MORRIS
1202—8th Avenue W.
Seattle, Wash 119

*Horse races are usually run withershins—and in Australia this custom is preserved by running the races in the reverse sense. No doubt this accounts for the great preponderance of bad luck among bettors.*

Dear Mr. Campbell:

Having enjoyed your magazine very much, I noticed THE PROBLEM. What does widdershins mean, and what is Counter Widdershins?

As any student of useless lore knows, widdershins is a Scottish term for counterclockwise, and so it follows that deasil, another good old Scottish term, means clockwise.

But how could you fit that into a conversation?

BRUCE A. BUTTYAN
1309 S. Ola Vista
San Clemente, California

*He got them both, but it is a little difficult to use them conversationally in this benighted age.*



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

# Discover America. It's 3,000 smiles wide.

See exotic sun-bronzed girls on tropical beaches.

Follow challenging trails up snow-bound peaks in the dead of summer.

Uncover centuries of secrets buried in strangely beautiful caverns.

Delight in authentic native dances: the boogaloo, the shing-a-ling, the skate.

Everywhere you go, friendly natives will introduce you to their strange folkways: the single-minded cult of the surfer, the infinite imagination of the city-dwellers.

America is action, ideas and a million surprises.

Isn't this the year to get out and discover it for yourself?

DISCOVER AMERICA

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

# Buy Bonds where you work. They do.

Over 90% of the 101st Airborne Division's 1st Brigade has signed up for U.S. Savings Bonds through the Payroll Savings Plan. That's what their Minute Man flag signifies. These men, now in Vietnam, deserve your support. When you purchase Savings Bonds regularly, you show the men of the 1st Brigade you're with them. And you walk a bit taller.

## Buy U. S. Savings Bonds

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED